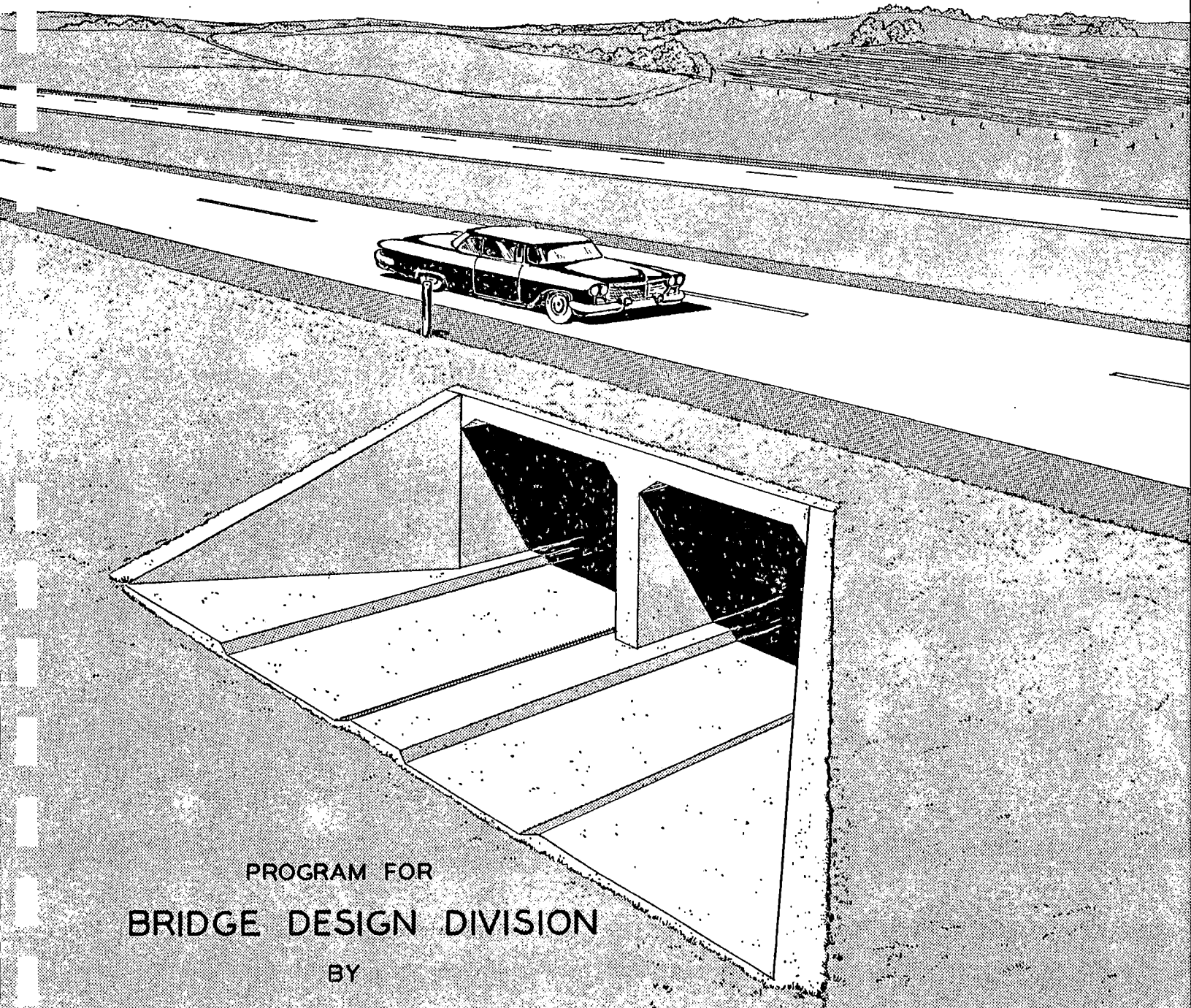


Computer Analysis Of

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Twin Box Culverts



PROGRAM FOR
BRIDGE DESIGN DIVISION

BY
COMPUTING CENTER

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COMPUTER ANALYSIS
OF
TWIN BOX CULVERTS

Employing The
IBM 650 COMPUTER

Developed For
THE BRIDGE DESIGN DIVISION
Neil Welden, Bridge Engineer

by
James S. Hoffman

Data Processing Dept.
COMPUTING CENTER
IOWA STATE HIGHWAY COMMISSION
AMES, IOWA
December, 1959

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Iowa State Highway Commission
Ames, Iowa

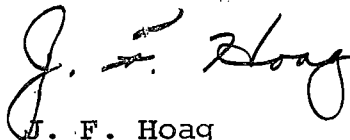
Dear Mr. Clauson:

Presented herewith is a copy of the program "Computer Analysis of Twin Box Culverts". This is the first program developed for the Bridge Design Division utilizing the computer to analyze culverts. The program is one of three proposed programs to analyze the single, twin and triple box culverts. To our knowledge, it is the first computer program anyone has developed to analyze twin box culverts for both dead and live loads.

We wish to express our thanks to Mr. Neil Welden, Bridge Engineer, who helped in developing the method used in this program.

The write-up will be made available to all State highway departments. Program listings and card decks will be sent upon request.

Sincerely yours,



J. F. Hoag
Electronic Computing Engineer

JFH:br

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Abstract of
Computer Analysis of Twin Box Culverts
by James S. Hoffman

The paper presents a method of analyzing Rigid Frames by use of the Conjugate Beam Theory. The development of the method along with an example is given.

This method has been used to write a computer program for the analysis of twin box culverts. The culverts may be analyzed under any fill height and any of the standard truck loadings. The wall and slab thickness are increased by the computer program as necessary. The final result is steel requirements, both for moment and shear, and the slab and wall thickness.

COMPUTER ANALYSIS OF TWIN BOX CULVERTS

INTRODUCTION

The manual analysis of box culverts is a long and tedious process. It is felt by many that the use of the computer would be the answer to the problem. The computer has proven to be a good solution even though the programming is quite an involved process.

There are several methods of analysis available for the solution of box culverts by the computer. However, it was decided to use the conjugate beam method since it would provide a direct and exact solution. By using an elimination method for the solution of the simultaneous equations, the dead load and several positions of live load can be analyzed at once.

The program was written using S.O.A.P. II for the IBM 650 computer. It was necessary to use a floating point routine (S.I.R.) in order to obtain the necessary range in the matrix solution. Eighteen positions of live load along with vertical dead load and horizontal dead load are solved. The program requires from 35 to 60 minutes for one pass.

The program will solve symmetrical culverts with a maximum of 18 ft. spans. The loading is governed by AASHO specifications of 1957. Twenty-five percent of the horizontal earth pressure will be used to relieve moments caused by vertical loads. The centerline of steel is assumed to be $2 \frac{1}{16}$ inches from the face of the concrete. This will allow $1\frac{1}{2}$ inches clear on a number 9 bar.

Sign Convention

The following sign convention will be used in this paper:

1. Clockwise moments acting on the end of the beam are positive.
2. Clockwise rotations are positive.
3. Displacements downward or to the right are positive.

Symbols

The following is a list of the symbols most commonly used in the paper:

θ is the rotation at the end of a beam

M is the moment at the end of a beam

Δ is a displacement

ℓ is the length of a member

I is the moment of inertia of a member

E is the modulus of elasticity of the material used in the member

Other symbols will be explained when they occur.

Conjugate Beam Theory

The conjugate beam principle may be stated thus:

If, for an actual beam loaded in such a manner as to produce moment in the beam, a conjugate beam be loaded with the M/EI diagram of the actual beam, then

1. The shear in the conjugate beam at any point is the slope of the elastic line of the actual beam at that point.
2. The moment in the conjugate beam at any point is the deflection of the actual beam at that point.

Derivation of the Formula

Take a simply supported beam loaded as shown in Figure 1 with a load of P and a settlement of the right support by Δ . The beam is restrained at A by M_{AB} and at B by M_{BA} .

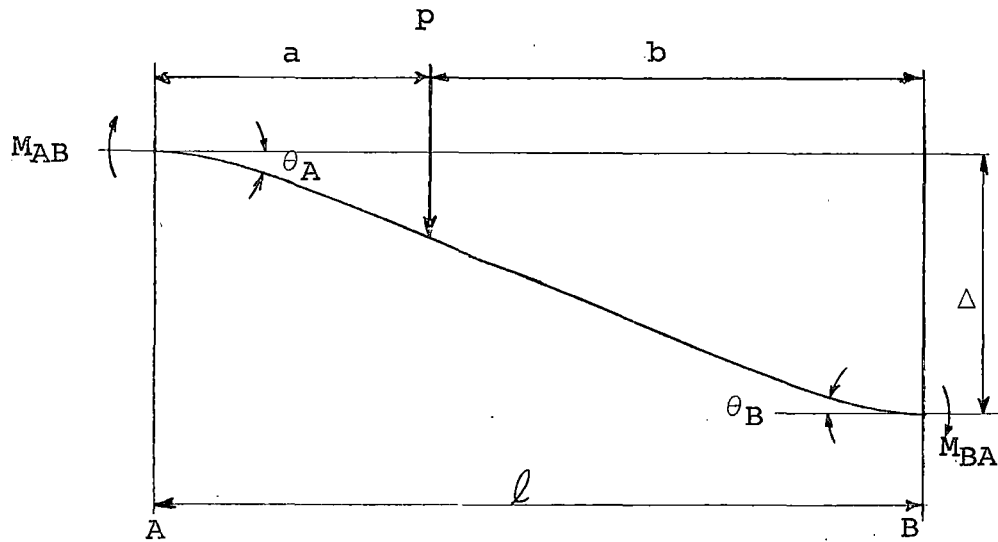


FIGURE 1

A conjugate beam is drawn in Figure 2 assuming a constant I

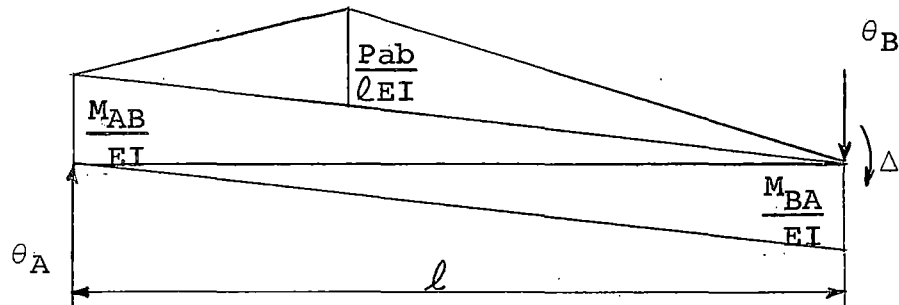


FIGURE 2

Note that the settlement (deflection) is represented by a moment as stated above in the conjugate beam theory. The unknown moments are assumed positive (clockwise). Note that a clockwise moment on one end will produce a counterclockwise rotation on the opposite end. Therefore, the M/EI diagrams are drawn on opposite sides for M_{AB} and M_{BA} . The M/EI diagram produced by the load will produce a clockwise rotation on the left. Therefore, it is drawn on the same side as the M_{AB}/EI diagram. The conjugate beam theory states that the shear in the conjugate beam at any point is the slope of the elastic line of the beam at that point. Therefore, the end shear in the conjugate beam is the rotation of that end of the beam.

Taking moments about B, Equation 1 is obtained

$$\frac{M_{AB}l}{3EI} - \frac{M_{BA}l}{6EI} + \frac{\Delta}{l} + \frac{A\bar{x}_B}{l} = \theta_A \quad (1)$$

Taking moments about A:

$$\frac{M_{BA} \ell}{3EI} - \frac{M_{AB} \ell}{6EI} + \frac{\Delta}{\ell} - \frac{A\bar{x}_A}{\ell} = \theta_B \quad (2)$$

Where A = Area of the M/EI diagram for the Applied Load

\bar{x}_A = The distance to the centroid of the M/EI diagram from A

\bar{x}_B = The distance to the centroid of the M/EI diagram from B

Note in Equation 1 that a clockwise moment at A will produce a clockwise rotation at A and is therefore added. A clockwise moment at B will produce a counterclockwise rotation at A and is therefore subtracted. A downward displacement at B will produce a clockwise rotation at A and is therefore added. The load P will produce a clockwise rotation at A and therefore the M/EI load caused by P is added.

The following rules may now be written concerning the formulation of the conjugate beam equation.

1. The shear from the M/EI diagram of an unknown moment (assumed to be positive) is added if the moment produces a clockwise rotation.
2. The rotation caused by a deflection or displacement is added as it produces a clockwise rotation. (Unknown deflections are assumed positive.)
3. The shear from the M/EI diagram caused by an applied load is added if the applied load produces a clockwise rotation.

The general equation is as follows:

$$\theta_A = \frac{M_A \ell}{3EI} - \frac{M_B \ell}{6EI} \pm \frac{\Delta}{\ell} \pm \frac{A\bar{x}_B}{\ell} \quad (3)$$

Equations 1 and 2 have been written by applying the general equation and the above rules. In addition to the conjugate beam equations, the equations of statics ($\Sigma V = 0$, $\Sigma H = 0$ and $\Sigma M = 0$) are also used.

Computer Program

The program is written for the twin box culvert as shown in Figure 3.

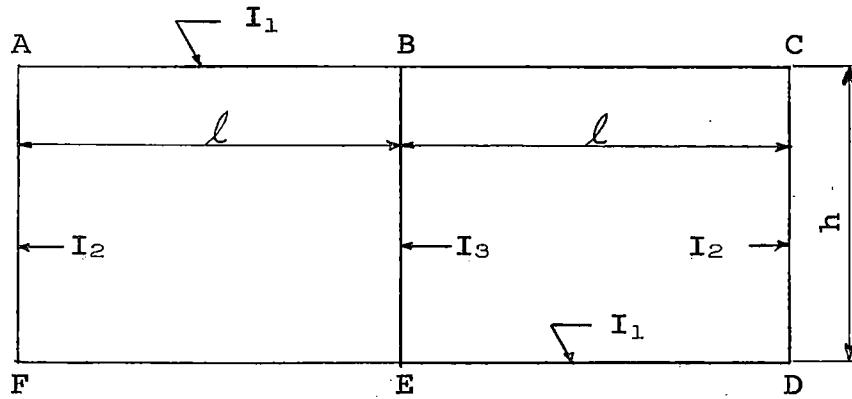


FIGURE 3

Eleven equations are needed for the solution. There are 10 unknown moments and one unknown side displacement. The 11 equations are as follows:

- 1) $\Sigma H = 0$
- 2) $\theta_{AF} = \theta_{AB}$
- 3) $\theta_{BA} = \theta_{BE}$
- 4) $\Sigma M_B = 0$
- 5) $\theta_{BC} = \theta_{BE}$
- 6) $\theta_{CB} = \theta_{CD}$
- 7) $\theta_{DC} = \theta_{DE}$
- 8) $\theta_{ED} = \theta_{EB}$
- 9) $\Sigma M_E = 0$
- 10) $\theta_{EF} = \theta_{EB}$
- 11) $\theta_{FE} = \theta_{FA}$

Writing these equations in terms of the unknown moments, lengths and I's we obtain the following:

$$1) \frac{M_{AF}}{h} + \frac{M_{BE}}{h} + \frac{M_{CD}}{h} + \frac{M_{DC}}{h} + \frac{M_{EB}}{h} + \frac{M_{FA}}{h} = 0$$

$$\begin{aligned}
 2) \quad & \frac{M_{AF}h}{3I_2} - \frac{M_{FA}h}{6I_2} + \frac{E\Delta}{h} - C_{AF} = \frac{M_{AB}l}{3I_1} - \frac{M_{BA}l}{6I_1} + C_{AB} \\
 3) \quad & \frac{M_{BA}l}{3I_2} - \frac{M_{AB}l}{6I_1} - C_{BA} = \frac{M_{BE}h}{3I_3} - \frac{M_{EB}h}{6I_3} + \frac{E\Delta}{h} \\
 4) \quad & M_{BA} + M_{BE} + M_{BC} = 0 \\
 5) \quad & \frac{M_{BC}l}{3I_1} - \frac{M_{CB}l}{6I_1} + C_{BC} = \frac{M_{BE}h}{3I_3} - \frac{M_{EB}h}{6I_3} + \frac{E\Delta}{h} \\
 6) \quad & \frac{M_{CB}l}{3I_1} - \frac{M_{BC}l}{6I_1} - C_{CB} = \frac{M_{CD}h}{3I_2} - \frac{M_{DC}h}{6I_2} + \frac{E\Delta}{h} + C_{CD} \\
 7) \quad & \frac{M_{DC}h}{3I_2} - \frac{M_{CD}h}{6I_2} + \frac{E\Delta}{h} - C_{DC} = \frac{M_{DE}l}{3I_1} - \frac{M_{ED}l}{6I_1} + C_{DE} \\
 8) \quad & \frac{M_{ED}l}{3I_1} - \frac{M_{DE}l}{6I_1} - C_{ED} = \frac{M_{EB}h}{3I_3} - \frac{M_{BE}h}{6I_3} + \frac{E\Delta}{h} \\
 9) \quad & M_{ED} + M_{EB} + M_{EF} = 0 \\
 10) \quad & \frac{M_{EF}l}{3I_1} - \frac{M_{FE}l}{6I_1} + C_{EF} = \frac{M_{EB}h}{3I_3} - \frac{M_{BE}h}{6I_3} + \frac{E\Delta}{h} \\
 11) \quad & \frac{M_{FE}l}{3I_1} - \frac{M_{EF}l}{6I_1} - C_{FE} = \frac{M_{FA}h}{3I_2} - \frac{M_{AF}h}{6I_2} + \frac{E\Delta}{h} + C_{FA}
 \end{aligned}$$

In the above equation, "C" represents the shear from the M/I diagram of the applied load. All equations except 1, 4 and 9 have been multiplied by E since it is constant.

The total load on the top of the culvert is the weight of fill plus the top slab. Earth is assumed to weigh 100 pounds per cubic foot.

$$e = (2l + 2W_1 + W_2) [100F + 150T]$$

Where W_1 = outside wall thickness

W_2 = inside wall thickness

F = the depth of fill

T = the thickness of top slab

e = total earth load

This load is placed as a uniform load on the top of the culvert. The M/I diagram shown below is the load on the conjugate beam.

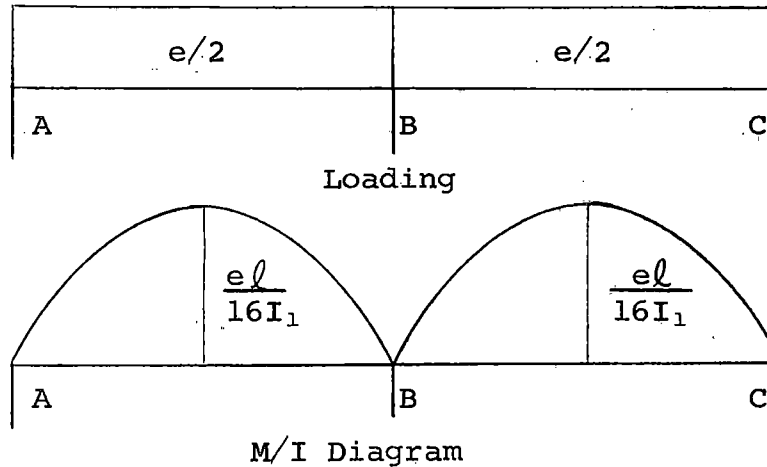


FIGURE 4

$$\text{Area} = \left(\frac{el}{16I_1} \right) \left(\frac{2l}{3} \right)$$

$$\text{Shear} = \frac{el^2}{48I_1}$$

This shear is used in the matrix shown later.

The bottom load is very similar. The bottom load P is equal to e plus the weight of the walls. Therefore, the shear for the bottom is:

$$\text{Shear} = \frac{pl^2}{48I_1}$$

The side load is applied as a triangle increasing from the surface at the rate of 28.7 pounds per square foot per foot of depth. The side load is shown in Figure 5.

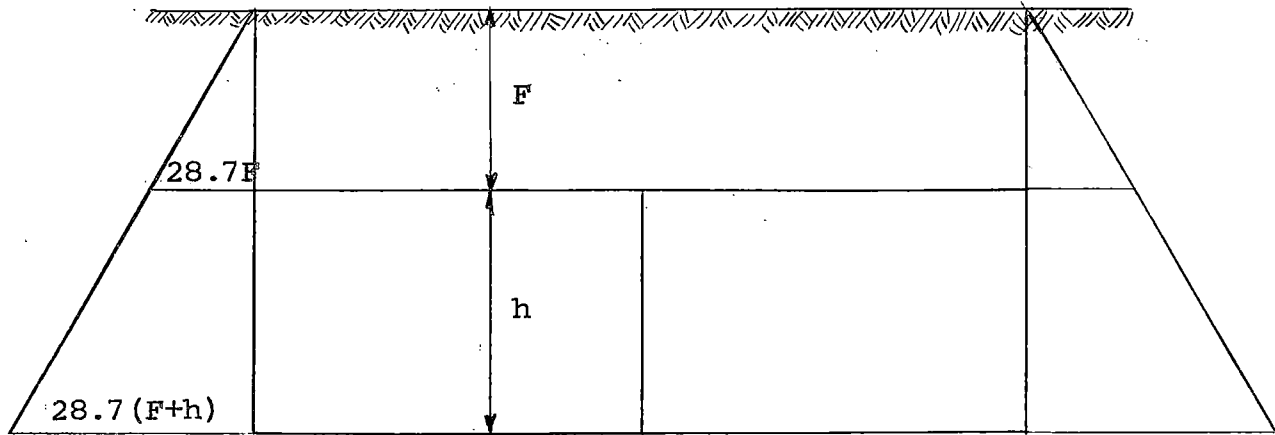


FIGURE 5

If the fill is less than the distance between the inside face of the outside walls, a 2 foot surcharge is added for the lateral pressure from the live load. The outside wall is shown in Figure 6 along with the M/I diagrams for each part.

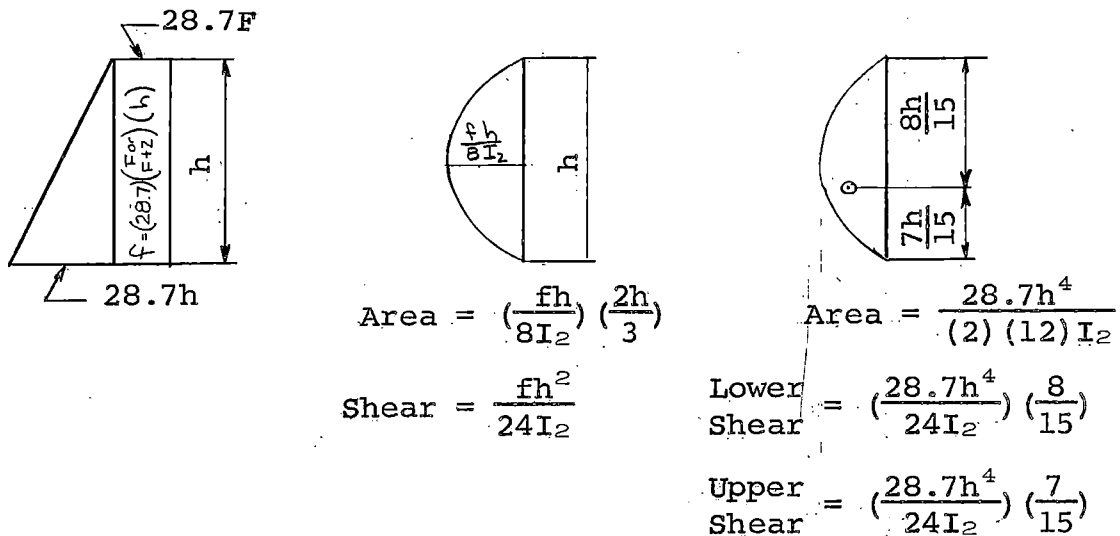


FIGURE 6

Using the equations written above and the dead load constants, the matrix can be formed as shown in Figure 7. In transferring the equations to the matrix let

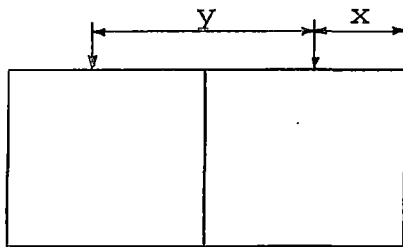
$$\begin{aligned} M_{AB} &= -M_{AF} \\ M_{CB} &= -M_{CD} \\ M_{DE} &= -M_{DC} \\ M_{FE} &= -M_{FA} \end{aligned}$$

The dead load columns are shown and the live loads are shown as shears from the M/I diagrams for 18 positions of live load. The live load positions will be shown in Figure 8.

	1	2	3	4	5	6	7	8	9	10	11	12	13-30	
	M_{AF}	M_{BA}	M_{BE}	M_{BC}	M_{CD}	M_{DC}	M_{ED}	M_{EB}	M_{EF}	M_{FA}	$E\Delta$	Vertical D.L.	Horizontal Dead Load	18 pos. of L.L.
1	$+\frac{1}{h}$	0	$+\frac{1}{h}$	0	$+\frac{1}{h}$	$+\frac{1}{h}$	0	$+\frac{1}{h}$	0	$+\frac{1}{h}$	0	0	0	0
2	$+\frac{h}{3I_2} + \frac{l}{3I_1}$	$+\frac{l}{6I_1}$	0	0	0	0	0	0	0	$-\frac{h}{6I_2}$	$+\frac{1}{h}$	$+\frac{el^2}{48I_1}$	$+\frac{h^2}{24I_2} \left[f + 28.7h^2 \left(\frac{7}{15} \right) \right]$	$+C_{AB}$
3	$+\frac{l}{6I_1}$	$+\frac{l}{3I_1}$	$-\frac{h}{3I_3}$	0	0	0	0	$+\frac{h}{6I_3}$	0	0	$-\frac{1}{h}$	$+\frac{el^2}{48I_1}$	0	$+C_{BA}$
4	0	+1	+1	+1	0	0	0	0	0	0	0	0	0	0
5	0	0	$-\frac{h}{3I_3}$	$+\frac{l}{3I_1}$	$+\frac{l}{6I_1}$	0	0	$+\frac{h}{6I_3}$	0	0	$-\frac{1}{h}$	$-\frac{el^2}{48I_1}$	0	$-C_{BC}$
6	0	0	0	$-\frac{l}{6I_1}$	$-\frac{l}{3I_1} - \frac{h}{3I_2}$	$+\frac{h}{6I_2}$	0	0	0	0	$-\frac{1}{h}$	$+\frac{el^2}{48I_1}$	$+\frac{h^2}{24I_2} \left[f + 28.7h^2 \left(\frac{7}{15} \right) \right]$	$+C_{CB}$
7	0	0	0	0	$-\frac{h}{6I_2}$	$+\frac{h}{3I_2} + \frac{l}{3I_1}$	$+\frac{l}{6I_1}$	0	0	0	$+\frac{1}{h}$	$+\frac{Pl^2}{48I_1}$	$+\frac{h^2}{24I_2} \left[f + 28.7h^2 \left(\frac{8}{15} \right) \right]$	$+C_{DE}$
8	0	0	$+\frac{h}{6I_3}$	0	0	$+\frac{l}{6I_1}$	$+\frac{l}{3I_1}$	$-\frac{h}{3I_3}$	0	0	$-\frac{1}{h}$	$+\frac{Pl^2}{48I_1}$	0	$+C_{ED}$
9	0	0	0	0	0	0	+1	+1	+1	0	0	0	0	0
10	0	0	$+\frac{h}{6I_3}$	0	0	0	0	$-\frac{h}{3I_3}$	$+\frac{l}{3I_1}$	$+\frac{l}{6I_1}$	$-\frac{1}{h}$	$-\frac{Pl^2}{48I_1}$	0	$-C_{EF}$
11	$+\frac{h}{6I_2}$	0	0	0	0	0	0	0	$-\frac{l}{6I_1}$	$-\frac{l}{3I_1} - \frac{h}{3I_2}$	$-\frac{1}{h}$	$+\frac{Pl^2}{48I_1}$	$+\frac{h^2}{24I_2} \left[f + 28.7h^2 \left(\frac{8}{15} \right) \right]$	$+C_{FE}$

FIGURE 7

Live Load Positions



H loading $y = 14$ ft.

Military
loading $y = 4$ ft.

x distance	P ₁	P ₂	Live Load Column
$\frac{W_1}{2} + T_1 - 2 \frac{1}{16} + 3$	x		13
$\frac{W_1}{2} + T_1 - 2 \frac{1}{16} + 3$	x	x	14
$0.35l$	x		15
$0.35l$	x	x	16
$0.4l$	x		17
$0.4l$	x	x	18
$0.45l$	x		19
$0.45l$	x	x	20
$0.5l$	x		21
$0.5l$	x	x	22
$0.55l$	x		23
$0.55l$	x	x	24
$0.6l$	x		25
$0.6l$	x	x	26
$0.65l$	x		27
$0.65l$	x	x	28
$l - \frac{W_2}{2} - T_1 + 2 \frac{1}{16} - 3$	x	x	29
$l - \frac{W_2}{2} - T_1 + 2 \frac{1}{16} - Y - 3$ (Change P ₁ &P ₂)	x	x	30

FIGURE 8

The live loads are distributed through the fill according to AASHO specifications.¹ Where the specification calls for a concentrated load, a load 6" long has been used. The live load distribution is shown in Figure 9.

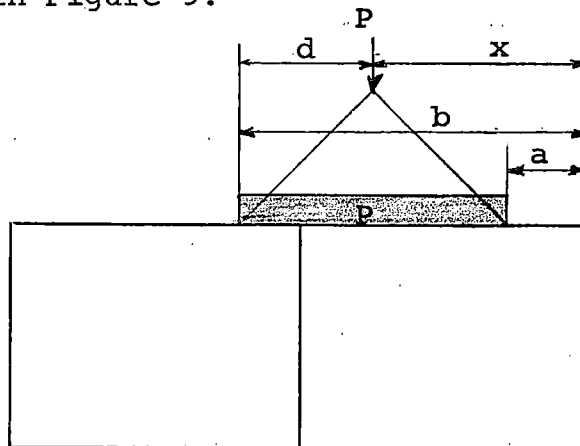


FIGURE 9

Fill	a	b	p
0-1 ft	$x-3''$	$x+3''$	$\frac{\text{Wheel}}{0.175S+3.2}$
2 ft	$x-(7/8)F$	$x+(7/8)F$	$\frac{\text{Wheel}}{(1 \ 3/4)F}$
3 ft	$x-(7/8)F$	$x+(7/8)F$	$\frac{2 \text{ Wheels}}{4+(1 \ 3/4)F}$
4 ft-(2S+W ₂)	$x-(7/8)F$	$x+(7/8)F$	$\frac{4 \text{ Wheels}}{16+(1 \ 3/4)F}$
over (2S+W ₂)	No Live Load		

The impact is added as follows:

Fill = 0' = 30% Fill = 1' = 20% Fill = 2' = 10% Fill over 3' = 0%

The M/I diagrams for live loads are used as loads on the conjugate beam. The shears are computed for the typical live load shown in Figure 10. The equations for left and right shear are given below Figure 10.

¹ See page 27, Par. 1.3.3. A.A.S.H.O. specifications of 1957

M/I Diagrams for Live Loads

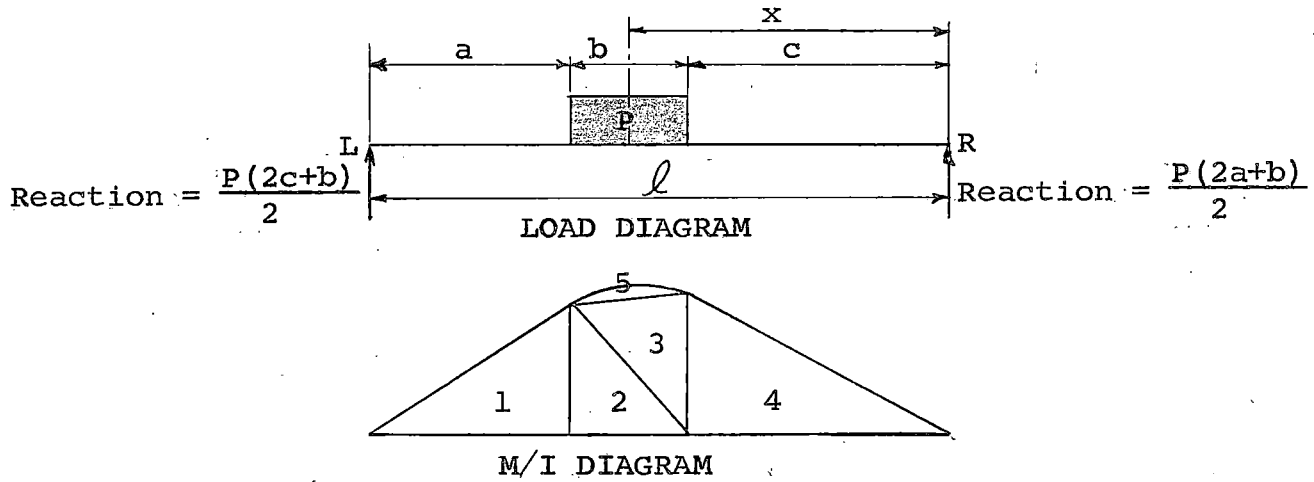


FIGURE 10

	Area of M/I Diagram	Shear at Left	Shear at Right
1)	$\frac{p(2c+b)a^2}{4lI_1}$	$\frac{p(2c+b)a^2(a+3b+3c)}{4lI_1 \quad 3l}$	$\frac{p(2c+b)a^2(2a)}{4lI_1 \quad 3l}$
2)	$\frac{p(2c+b)ab}{4lI_1}$	$\frac{p(2c+b)ab(2b+3c)}{4lI_1 \quad 3l}$	$\frac{p(2c+b)ab(3a+b)}{4lI_1 \quad 3l}$
3)	$\frac{p(2a+b)cb}{4lI_1}$	$\frac{p(2a+b)cb(b+3c)}{4lI_1 \quad 3l}$	$\frac{p(2a+b)cb(3a+2b)}{4lI_1 \quad 3l}$
4)	$\frac{p(2a+b)c^2}{4lI_1}$	$\frac{p(2a+b)c^2(2c)}{4lI_1 \quad 3l}$	$\frac{p(2a+b)c^2(3a+3b+c)}{4lI_1 \quad 3l}$
5)	$\frac{pb^2}{12I_1}$	$\frac{pb^2(2c+b)}{24I_1 \quad l}$	$\frac{pb^2(2a+b)}{24I_1 \quad l}$

Total
Left
Shear $\frac{p}{24lI_1} (b+2c) [2l^2 - (b+c)^2 - c^2]$

Total
Right
Shear $\frac{p}{24lI_1} (2a+b) [2l^2 - (a+b)^2 - a^2]$

The live load on the top of the culvert is resisted by a uniform bottom load plus a moment load. This load is shown in Figure 11.

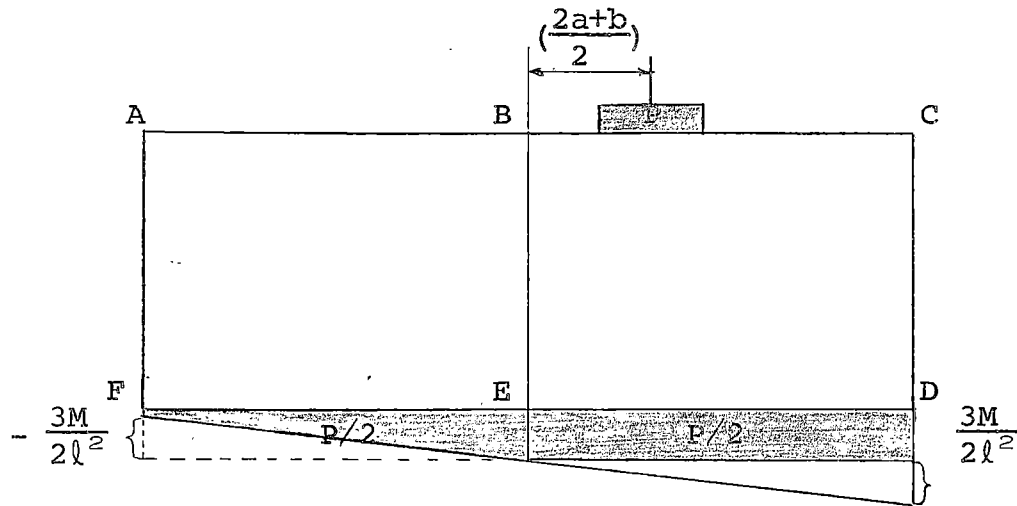


FIGURE 11

For loads to the right of the center wall, $M = (\frac{2a+b}{2})p$ and for loads to the left of the center wall, $M = -(\frac{2c+b}{2})p$. The shear for the uniform load is $\frac{pl^2}{48I_1}$ for both right and left. The shear for the triangular load is $\frac{8Ml}{240}$ on the large end of the triangle and $\frac{7Ml}{240}$ on the small end. Therefore, the shears for the matrix are as follows

$$C_{DE} = \frac{pl^2}{48I_1} + \frac{8Ml}{240}$$

$$C_{EF} = \frac{pl^2}{48I_1} - \frac{7Ml}{240}$$

$$C_{ED} = \frac{pl^2}{48I_1} + \frac{7Ml}{240}$$

$$C_{FE} = \frac{pl^2}{48I_1} - \frac{8Ml}{240}$$

Included in the input data are the minimum acceptable thicknesses of walls and slab. The program computes new thicknesses of slab or wall and the largest value for the slab, outside wall and inside wall is stored until the end of the program. If any one of these values is larger than the input value, a new input card is punched which contains new thickness values. This card is then used to make another run. The steel requirements are computed using the input value for slab and wall thicknesses.

In all cases the moments are computed for all 18 positions of live load and the maximum value is used.

In the equations below the following values are used:

$j = 0.875$

allowable shear in concrete = 90 psi

allowable bond on bars = 350 psi

allowable compressive stress for concrete in slab = 1400 psi

allowable compressive stress for concrete in walls = 1200 psi

allowable steel stress = 20,000 psi

Shear in Top Slab

The load on the top slab is shown in Figure 12.

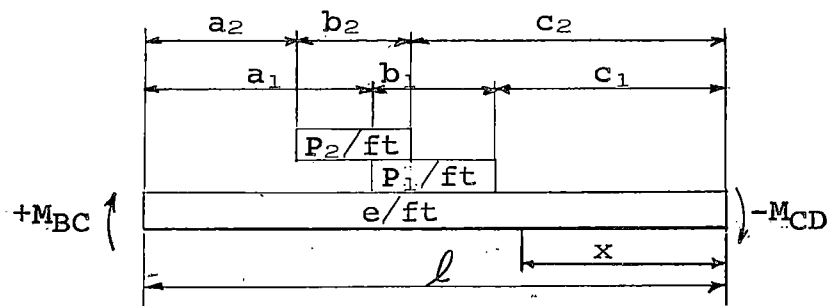


FIGURE 12

Either or both of the live loads, P_1 and P_2 , may be zero. The shear at any point is shown in the following equation.

$$V = \frac{M_{BC} - M_{CD}}{l} + e\left(\frac{l}{2} - x\right) + \text{live load shear}$$

The required thickness of slab is -

$$t = 2 \frac{1}{16} + \frac{V}{90jb} = 2.06 + \frac{V}{932}$$

The required perimeter of bars is -

$$\Sigma o = \frac{V}{350jd} = \frac{V}{302d}$$

The shear is computed for all 18 cases of live load to find the maximum. The shear is computed at $T - 2 \frac{1}{16}$ from the face of the wall using 25% of the side load for bar A* and 100% of side load for bar C*.

* See sketch on page 21 for bar designations.

Shear in Bottom Slab

The load on the bottom slab is shown in Figure 13.

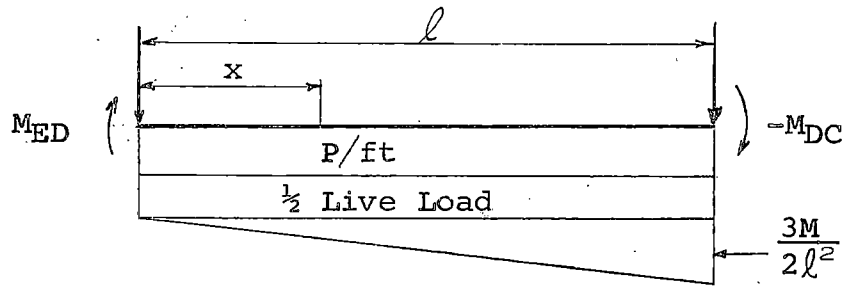


FIGURE 13

The live load may be zero. The shear at any point in the bottom slab is shown in the following equation.

$$V = \frac{M_{ED} - M_{DC}}{l} + \left(\frac{l}{2} - x\right) \left[p + \frac{\text{Live Load}}{2l} \right] + \frac{M}{4l} \left[1 - \frac{3x^2}{l^2} \right]$$

The thickness of slab and the required bar perimeter is computed as for the top slab. The shear is computed at $T = 2 \frac{1}{16}$ from the face of the wall using 25% of the side load for bar J and 100% of side load for bar F.

Moment in the Top Slab

The load on the top slab is shown in Figure 14.

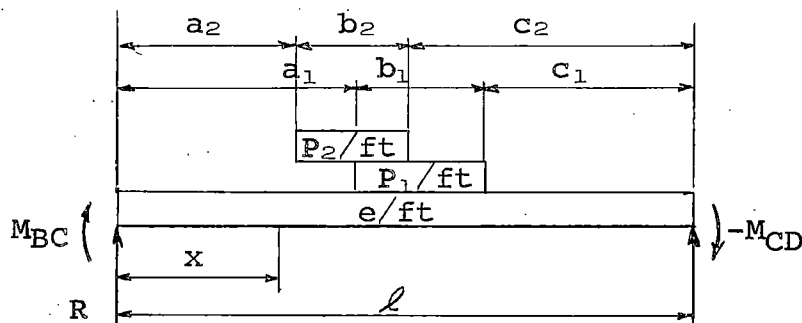


FIGURE 14

The moment at any point is shown in the following equation

$$M_x = \frac{M_{BC}(\ell-x)}{\ell} + \frac{M_{CD}x}{\ell} + R_x - \frac{ex^2}{2} - \text{moment from live loads}$$

$$\text{Where: } R = \frac{e\ell}{2} + \frac{b_1p_1(2c_1+b_1)}{2\ell} + \frac{b_2p_2(2c_2+b_2)}{2\ell}$$

The thickness of slab required for a balanced section is computed with the following equation

$$t = 2 \frac{1}{16} + \sqrt{\frac{2M_x}{f_c k j b}} = 2 \frac{1}{16} + \sqrt{\frac{M_x}{248}}$$

The area of steel required is -

$$A_s = \frac{M_x}{f_s j d} = \frac{M_x}{17,260d}$$

The area of steel required for bar A is computed at the face of the center wall using 25% of the side load. The moment is then computed at 3" increments starting at the center wall to determine the cutoff point for 50% of bar A and the point where bar A is no longer required. These lengths are given without any extension.

The area of steel for bar B is computed at 3" intervals between the 0.35 and 0.65 points and the maximum value is used. A side load of 25% is used for bar B. The cutoff point for 50% of bar B is determined by starting at the 0.5 point and moving toward the center wall by 3" increments until the area of steel required is less than 50% of the maximum. Then the cutoff for the outer end is determined in a similar manner.

The area of steel for bar C is computed at the face of the outside wall using 100% of the side load. The moment is computed at 3" increments starting at the outer wall to determine the point at which the bar is no longer needed.

All of these values are then stored and will be punched if all sections are above the minimum required size.

Moment in the Bottom Slab

The load on the bottom slab is shown in Figure 15.

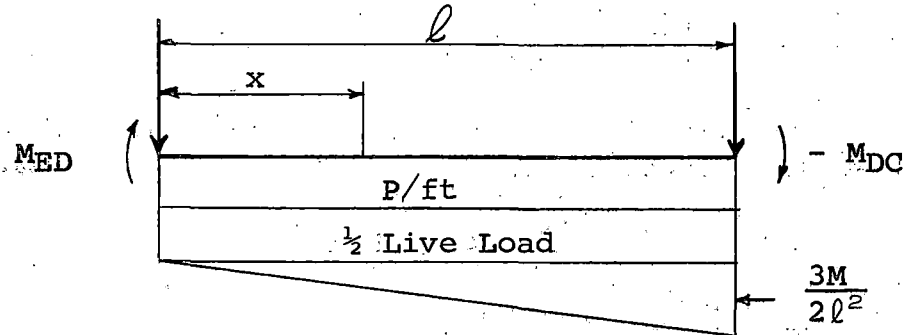


FIGURE 15

The moment at any point is given by the following equation:

$$M_x = -\frac{M_{ED}(l-x)}{l} - \frac{M_{DC}x}{l} + Rx - \frac{(p+LL/ft)x^2}{2} - \frac{x^3 M}{4l^3}$$

$$\text{Where: } R = \frac{pl}{2} + \frac{\text{Live Load}}{4} + \frac{M}{4l}$$

The thickness of slab and area of steel are computed using the same equations as for the top slab.

The area of steel and location of bar cutoffs are computed in the same manner as the corresponding bar in the top slab. These are stored in the output section.

Moment in the Outside Wall

The load on the outside wall is shown in Figure 16.

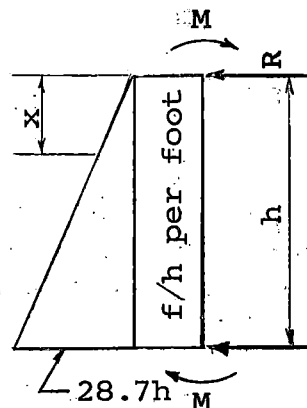


FIGURE 16

The moment at x is -

$$M_x = R_x + M_{CD} - \frac{fx^2}{2h} - \frac{28.7x^3}{6}$$

$$\text{Where: } R = -\left[\frac{M_{CD}+M_{DC}}{h}\right] + \frac{f}{2} + \frac{28.7h^2}{6}$$

A reduced allowable stress is used for the wall section. The formula for computing thickness of wall is -

$$t = 2 \frac{1}{16} + \sqrt{\frac{2M_x}{f_c k j b}} = 2 \frac{1}{16} + \sqrt{\frac{M_x}{197}}$$

The steel requirements are computed by -

$$A_s = \frac{M_x}{f_s j d} = \frac{M_x}{17,500d}$$

The area of steel required for bar C is computed at the bottom edge of the top slab using 100% of side load. If the steel requirement is larger than that required for bar C in the top slab it is stored in place of the previous value.

The area of steel required for bar D is computed at the end of bar C using the length computed in the slab and both 25% and 100% of side load. This value is stored.

The area of steel is then computed for bar F at the top of the bottom slab using 100% side load. If the amount of steel is larger than that required for bar F in the bottom slab, it is stored in place of the previous value.

The area of steel for bar D is again computed at the end of bar F with both 25% and 100% of side load. This area is stored if larger than the previously computed value.

To determine the steel required for bar E the following equation is used -

$$M_x = -M_{AF} + R_x - \frac{fx^2}{2h} - \frac{28.7x^2}{6}$$

$$\text{Where: } R = \frac{M_{AF}+M_{FA}}{h} + \frac{f}{2} + \frac{28.7h}{6}$$

The maximum moment will occur between the 0.5 point and the 0.58 point. Therefore, the steel is computed every 3" between these points using 100% side load and the maximum value is stored.

Moment in the Center Wall

The area of steel required for the center wall is computed using only the end moments since no external loads are involved. The moment is computed at the face of the top and bottom slab and using the maximum value, the area of steel is computed with the same equation used for the outside walls.

Cutoff Lengths for Bar A

The maximum length of bar A is determined by placing the load in the right span and checking the bar in the left span. The loading is shown in Figure 17.

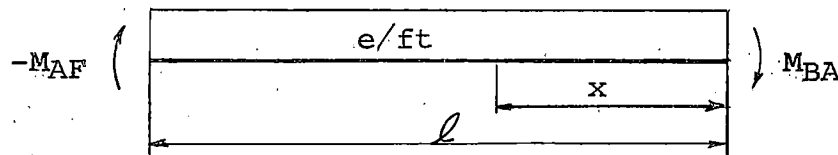


FIGURE 17

The moment at x is -

$$M_x = -\frac{M_{BA}(l-x)}{l} - \frac{M_{AF}(x)}{l} + \frac{e l x}{2} - \frac{e x^2}{2}$$

The required area of steel is computed at 3" increments until the 50% of cutoff is determined. The point at which bar A is no longer required is then computed and these values are stored.

Check Section

After the steel has been computed for all sections, a check is made to determine if any of the computed thicknesses were greater than the thicknesses given with the input. Any that were too small are increased by $3/4$ of the difference between the value given and the value needed, rounding up to the next whole inch. A card is then punched which is a new input card. This card is combined with the program deck and another run is made.

If all input thicknesses were large enough, 3 cards are punched out which contain all of the steel areas, the cutoff lengths and the perimeter requirement for shear. These are listed and returned to the designer.

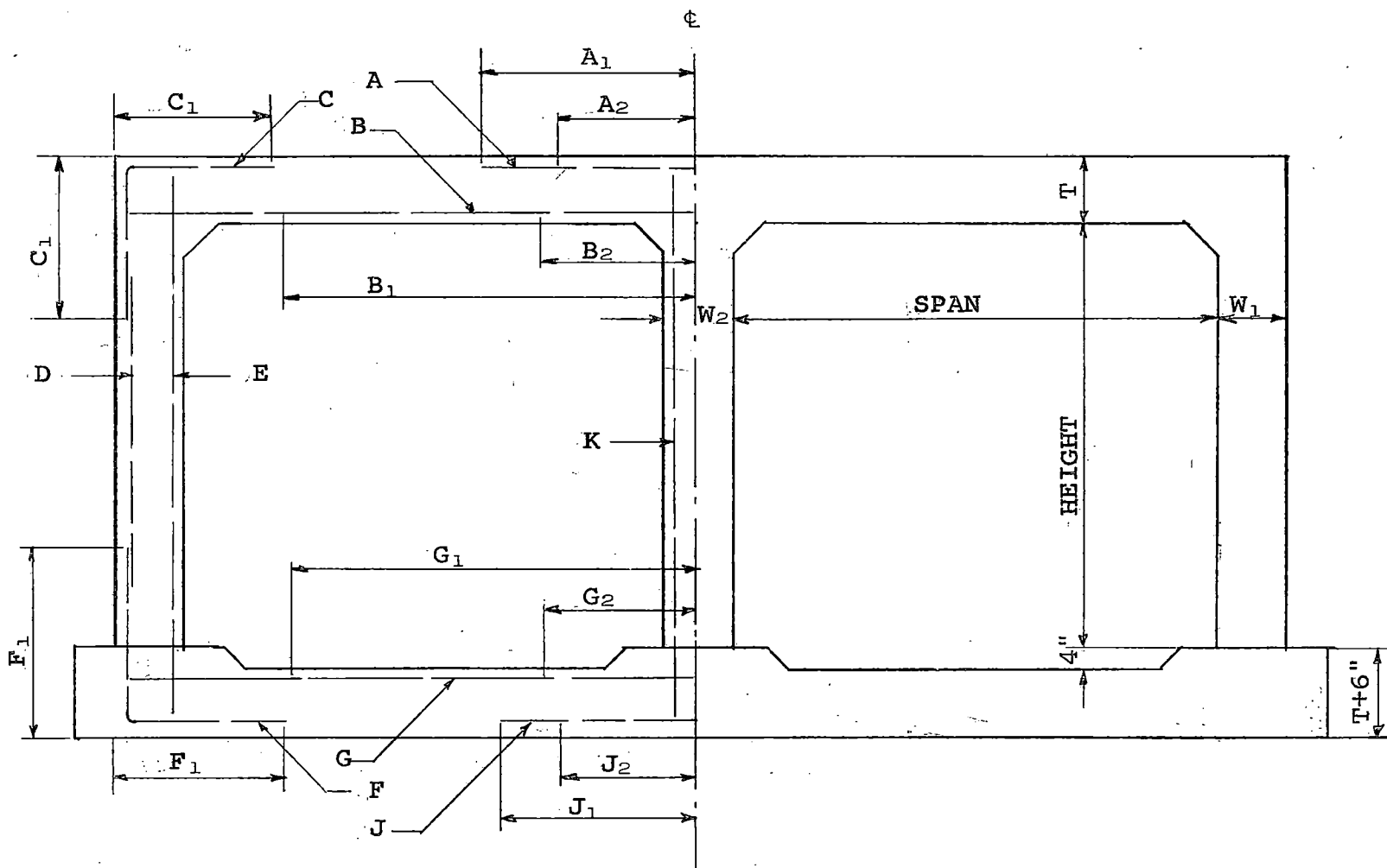
Conclusion

This program represents a saving in design time and relieves engineers for other work. Only a minimum amount of time need be spent on the culvert.

The steel in the center wall is somewhat larger than is necessary. This is due to the fact that it is designed on the basis of moment only and not as a column. It may be possible to analyze this wall and also the outside wall as a column, but space requirements may restrict this method.

Except for this bar, good agreement has been obtained with manual methods. Using this same method a single box would be quite easy to program. The triple box involves variable wheel spacing and the analysis is much more difficult. But influence lines could be computed for the triple box and thereby reduce the design time.

DIAGRAM OF TWIN BOX CULVERT



DATA FOR TWIN BOX CULVERT
COMPUTER ANALYSIS

TO: Computing Center

Return To: _____ Bridge Design _____ Phone _____
 _____ 32 - _____
 County Design No. Budget Code

Load (circle one) Col. 11

- 1 H15 - S12
- 2 H15
- 3 H20 - S16
- 4 H20
- 5 Military

Co.	Design

Span (ft.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>
Minimum Thickness of outer wall (in.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>
Minimum Thickness of inner wall (in.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>
Height (ft.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>
Minimum Thickness of top slab (in.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>
Depth of fill (ft.)	<div style="position: absolute; right: 0; top: 0; bottom: 0; width: 10px;"></div>

Span and Height in feet and hundreths.
Other dimensions in whole units.

ANSWER SHEET

Figures are to 2 decimal places. Bar areas are in square inches per foot of slab. Cutoff lengths are in feet. Perimeter requirements are in inches per foot of slab for the shear at the distance from the face of the wall equal to the depth to the steel.

BM	PT	CO	DESN	R	SLAB	OUT W	CTR W	A	A1	A2	B	B1	B2		
3	01	99	4321	0	8	8	6	52	500	150	77	679	229		
BM	PT	CO	DESN	R	C	C1	D	E	F	F1	G	G1	G2		
3	02	99	4321	0	37	191	31		33	141	49	704	254		
BM	PT	CO	DESN	R	J	J1	J2	K	PER A	PER C	PER F	PER J	SP	H	F
3	03	99	4321	0	65	225	125	23	259	238	166	187	800060001		
BM	PT	CO	DESN	R	UNDER	BM		2 H15	4 H20	1 H15-S12	3 H20-S16	5 MILITARY			N

-23-

BM	PT	CO	DESN	R	SLAB	OUT W	CTR W	A	A1	A2	B	B1	B2		
3	01	99	4321	0	12	8	6	116	225	125	68	754	304		
BM	PT	CO	DESN	R	C	C1	D	E	F	F1	G	G1	G2		
3	02	99	4321	0	39	116	42		41	116	71	754	304		
BM	PT	CO	DESN	R	J	J1	J2	K	PER A	PER C	PER F	PER J	SP	H	F
3	03	99	4321	0	120	225	125		295	170	178	307	800060020		
BM	PT	CO	DESN	R	UNDER	BM		2 H15	4 H20	1 H15-S12	3 H20-S16	5 MILITARY			

INPUT CARD

7 PER CARD LOADING CODE 00197800.07										LOAD	COUNTY	DESIGN NO.	SPAN	W ₁	W ₂	HEIGHT	T	FILL
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
77	78	79	80															

Note: 12 punch in col. 1, 10, 20, 30, 40, 50, 60, 70, 80

OUTPUT CARD NO. 1

[illegible]

OUTPUT CARD NO. 2

LOAD	CARD NO.	COUNTY	DESIGN NO.	AREA BAR C	LENGTH C ₁	AREA BAR D	AREA BAR E	AREA BAR F	LENGTH F ₁	AREA BAR G	LENGTH G ₁	LENGTH G ₂
0	00000	00000	00000	0000000	0000000	0000000	0000000	0000000	000000000000	000000000000	000000000000	000000000000
1	2 3 4 5 6 7 8 9 10	11 12 13 14 15 16	17 18 19 20 21 22	23 24 25 26 27 28	29 30 31 32 33 34	35 36 37 38 39 40	41 42 43 44 45 46 47 48 49 50	51 52 53 54 55 56 57 58 59 60	61 62 63 64 65 66 67 68 69 70	71 72 73 74 75 76 77 78 79 80		
1	11111	11111	11111	1111111	1111111	1111111	1111111	1111111	111111111111	111111111111	111111111111	111111111111
2	22222	22222	22222	2222222	2222222	2222222	2222222	2222222	222222222222	222222222222	222222222222	222222222222
3	33333	33333	33333	3333333	3333333	3333333	3333333	3333333	333333333333	333333333333	333333333333	333333333333
4	44444	44444	44444	4444444	4444444	4444444	4444444	4444444	444444444444	444444444444	444444444444	444444444444
5	55555	55555	55555	5555555	5555555	5555555	5555555	5555555	555555555555	555555555555	555555555555	555555555555
6	66666	66666	66666	6666666	6666666	6666666	6666666	6666666	666666666666	666666666666	666666666666	666666666666
7	77777	77777	77777	7777777	7777777	7777777	7777777	7777777	777777777777	777777777777	777777777777	777777777777
8	88888	88888	88888	8888888	8888888	8888888	8888888	8888888	888888888888	888888888888	888888888888	888888888888
9	99999	99999	99999	9999999	9999999	9999999	9999999	9999999	999999999999	999999999999	999999999999	999999999999
1	2 3 4 5 6 7 8 9 10	11 12 13 14 15 16	17 18 19 20 21 22	23 24 25 26 27 28	29 30 31 32 33 34	35 36 37 38 39 40	41 42 43 44 45 46 47 48 49 50	51 52 53 54 55 56 57 58 59 60	61 62 63 64 65 66 67 68 69 70	71 72 73 74 75 76 77 78 79 80		

OUTPUT CARD NO. 3

LOAD	CARD NO.	COUNTY	DESIGN NO.		AREA	LENGTH	LENGTH	AREA	PERM.	PERIMETER	PERIMETER	PERIMETER	SPAN	HEIGHT	FILL
					BAR J	J ₁	J ₂	BAR K	BAR A	BAR C	BAR F	BAR J			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Keypunch Instructions

Card Column

11	Load
14-15	County
16-19	Design No.
27-30	Span
39-40	Outer Wall
49-50	Inner Wall
57-60	Height
69-70	Top Slab
79-80	Depth of Fill

Punch 0019780007 in columns 1 - 10.

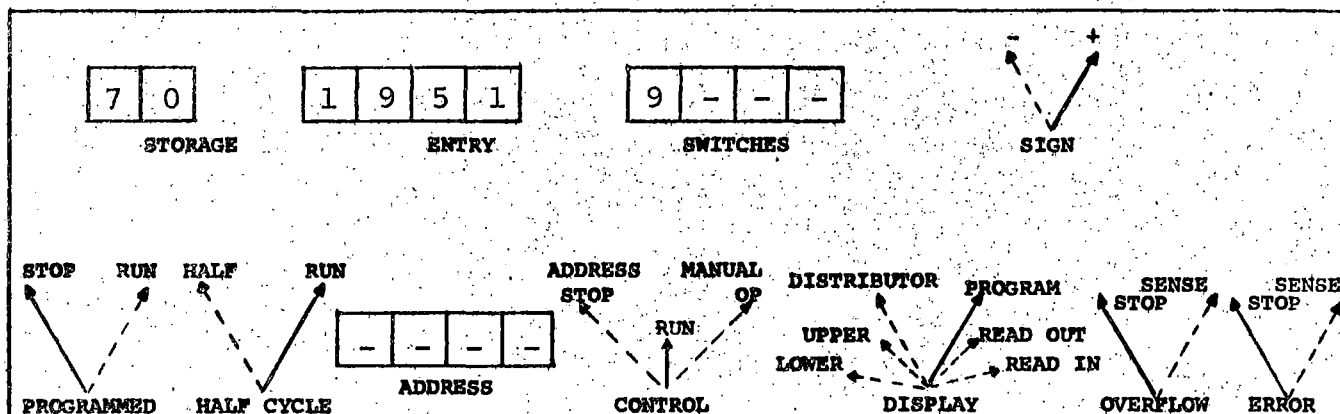
Punch a 12 overpunch in columns 1, 10, 20, 30, 40, 50, 60, 70, 80.

Punch zeros in all other columns.

Equipment Operating Instructions

Sort output cards behind header cards on cc 3. Then list on 407 board No. 7 with switch 1 on.

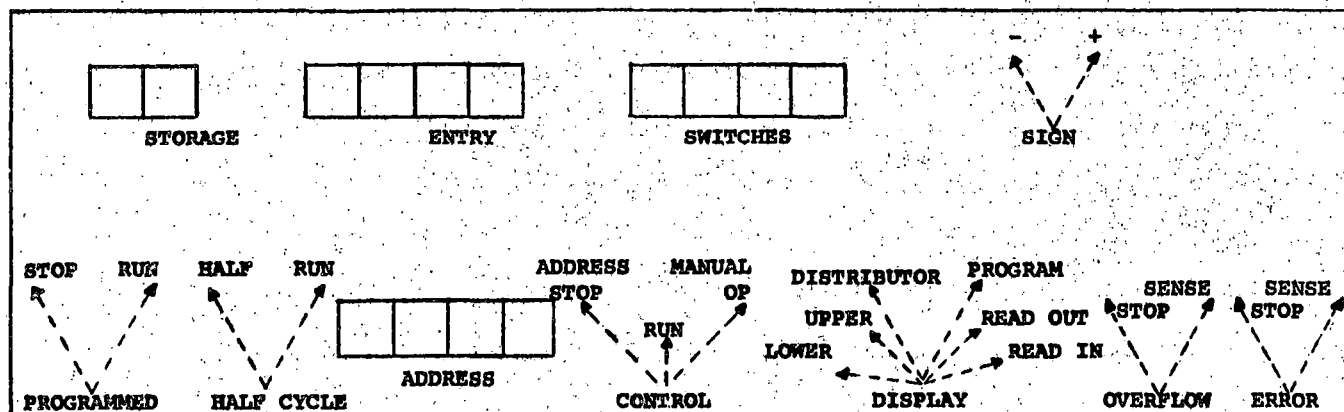
7 Per Card Deck
650 PROGRAM LOADING INSTRUCTIONS



1. Initial Console Setting as shown above.
2. Starting Procedure: Computer Reset, Program Start.
3. Special Instructions: Place 1 data card behind Green Card in program deck. Start. It will run about 35 to 60 minutes.

If only one card is punched out, place that card behind the Green Card in place of the original data card and repeat. If 3 cards are punched, sort on cc 3 behind header cards and list on board No. 7 with SW/ON. Use wide paper. Save header cards.

650 PROGRAM OPERATING INSTRUCTIONS



1. Console Setting Shown Above.
2. Starting Procedure: Computer Reset, Program Start
Punch Feed White 5081
Control Panels #2 SW1 on SW 2 & 3 off
3. Special Instructions:

533 Board Wiring List

READ C and PUNCH C

CC 1-10 to Word 1 Pos 10-1
CC 11-16 to Word 2 Pos 6-1
CC 17-22 to Word 3 Pos 6-1
CC 23-28 to Word 4 Pos 6-1
CC 29-34 to Word 5 Pos 6-1
CC 35-40 to Word 6 Pos 6-1
CC 41-50 to Word 7 Pos 10-1
CC 51-60 to Word 8 Pos 10-1
CC 61-70 to Word 9 Pos 10-1
CC 71-80 to Word 10 Pos 10-1

PUNCH A

Wired 80-80

PLUG RSU & PSU

POS 8 control information to Punch A

POS 8 control information to 1 PU Punch code selector No. 1

Punch + Exit to C Punch Code selector No. 1

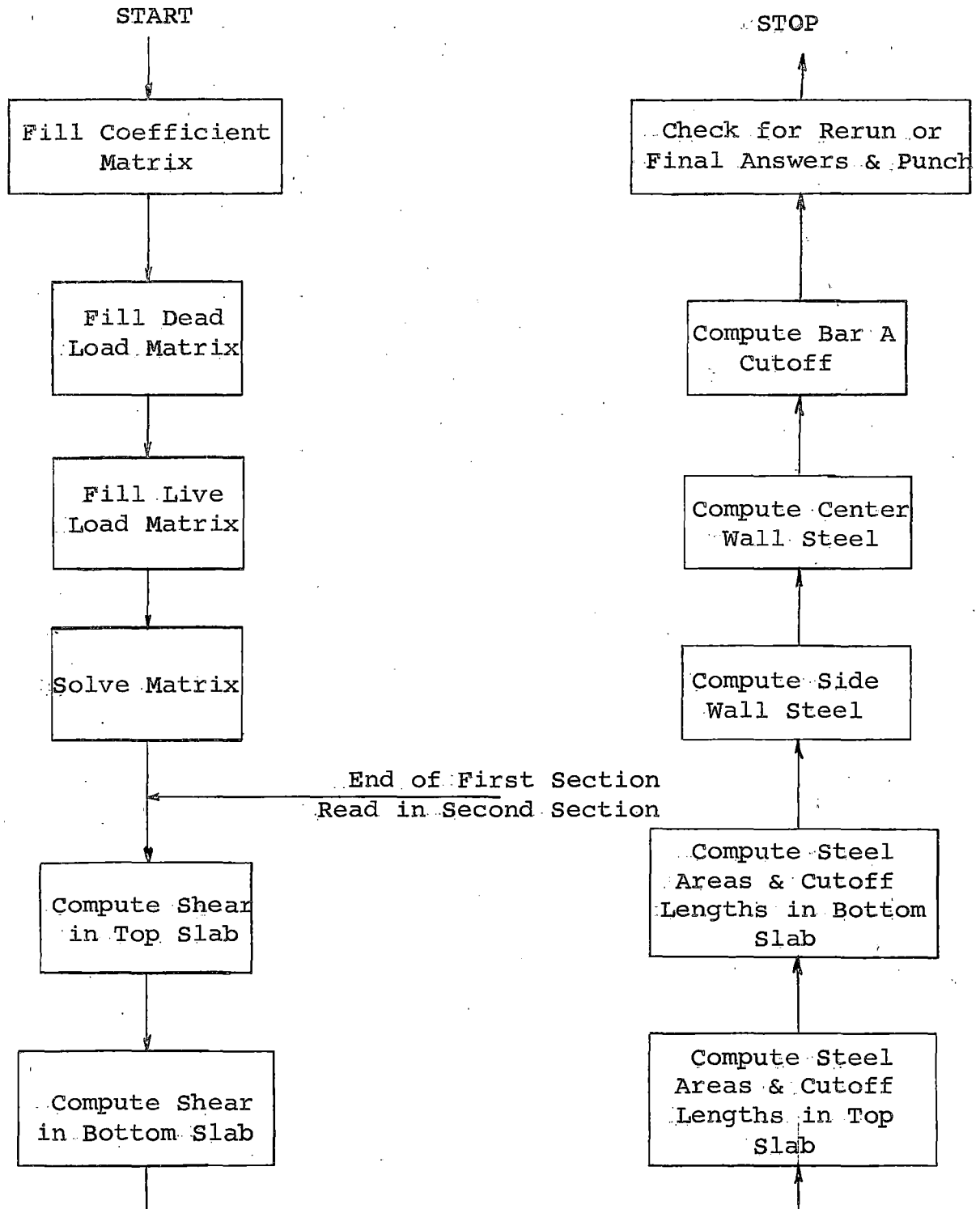
Punch + Entry to T Punch Code selector No. 1

Word Size Emitter

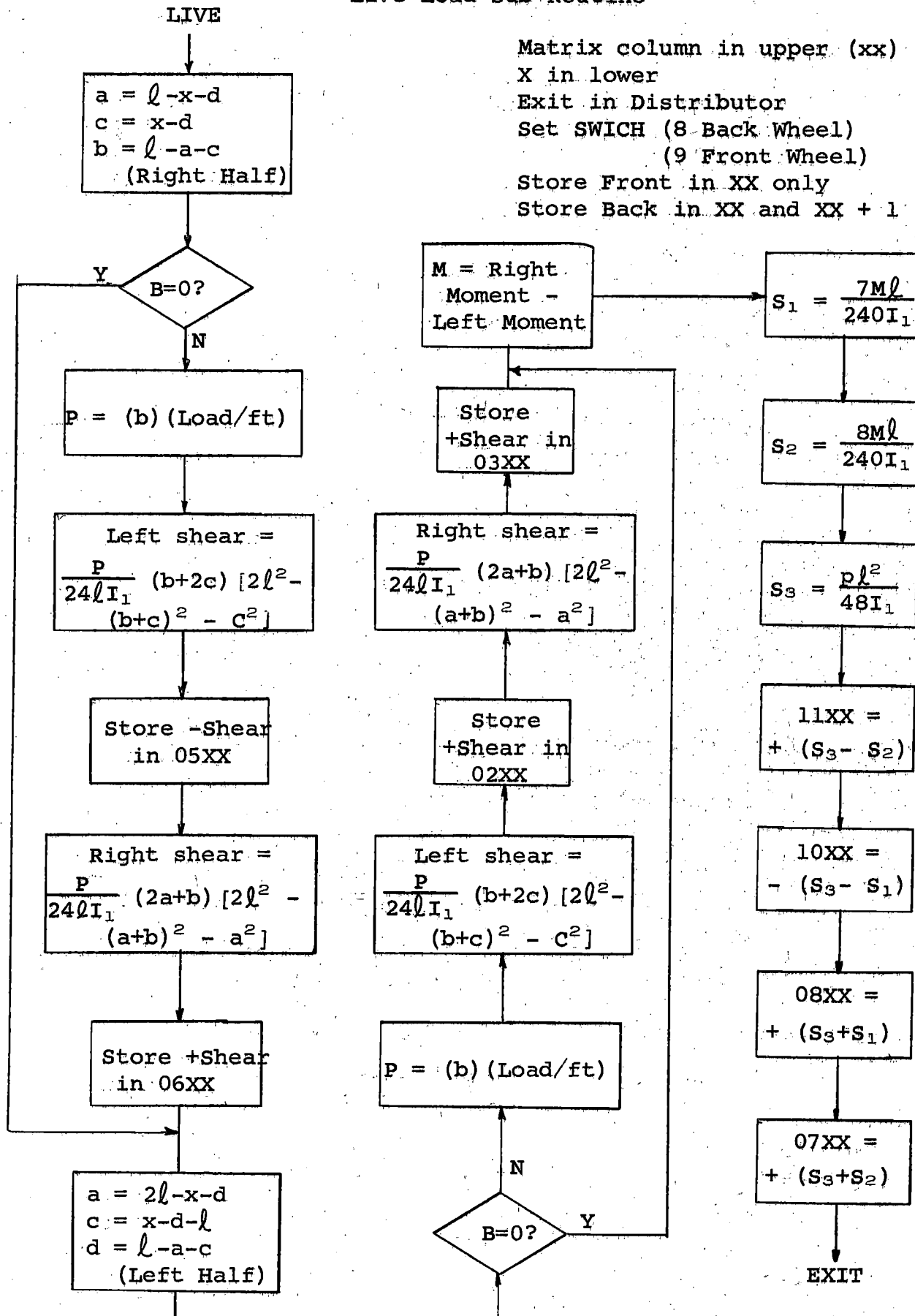
10 to Read C word 1, 7, 8, 9 & 10
6 to Read C word 2, 3, 4, 5 & 6

First Read Col 1 to Load

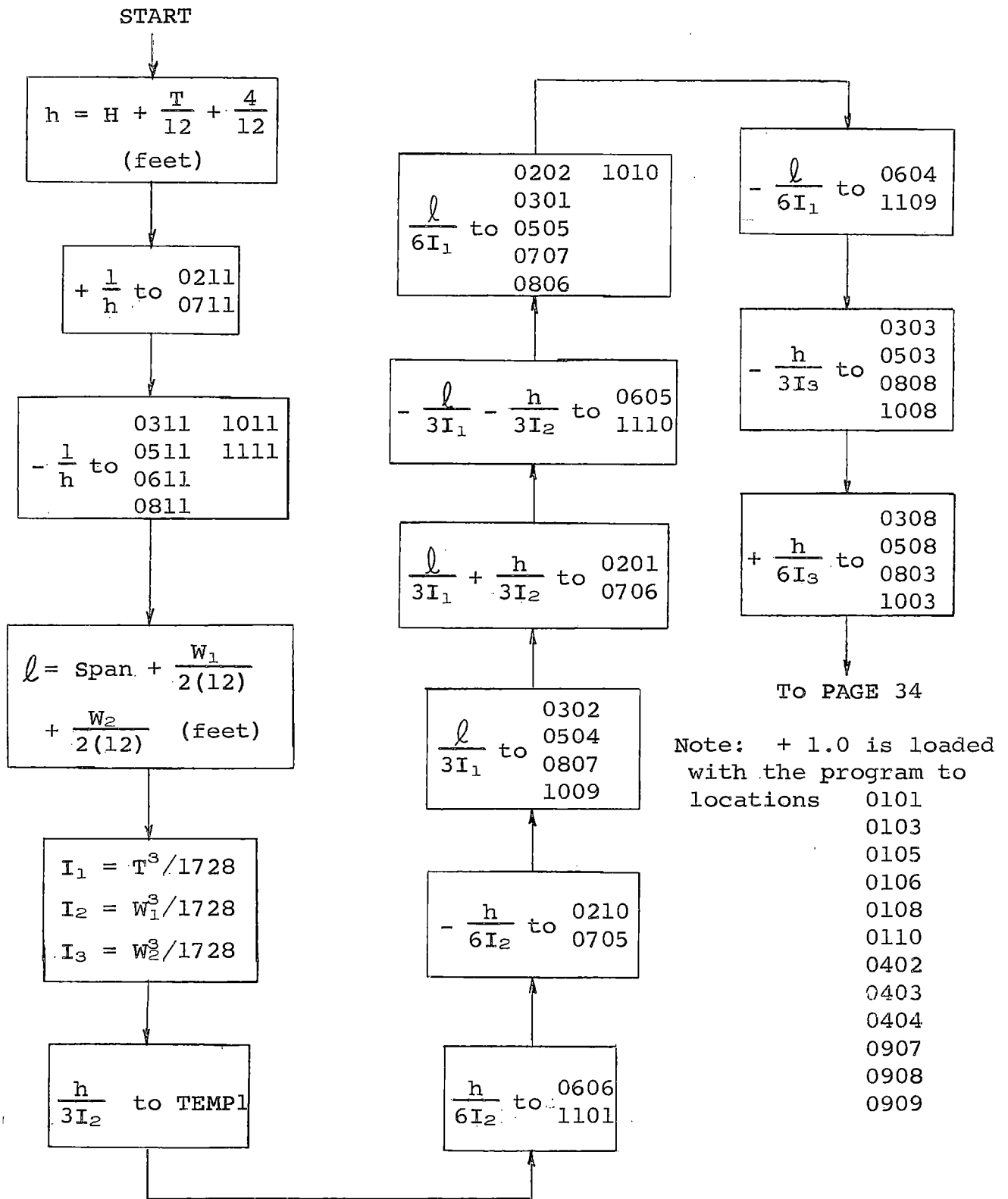
General Flow Chart



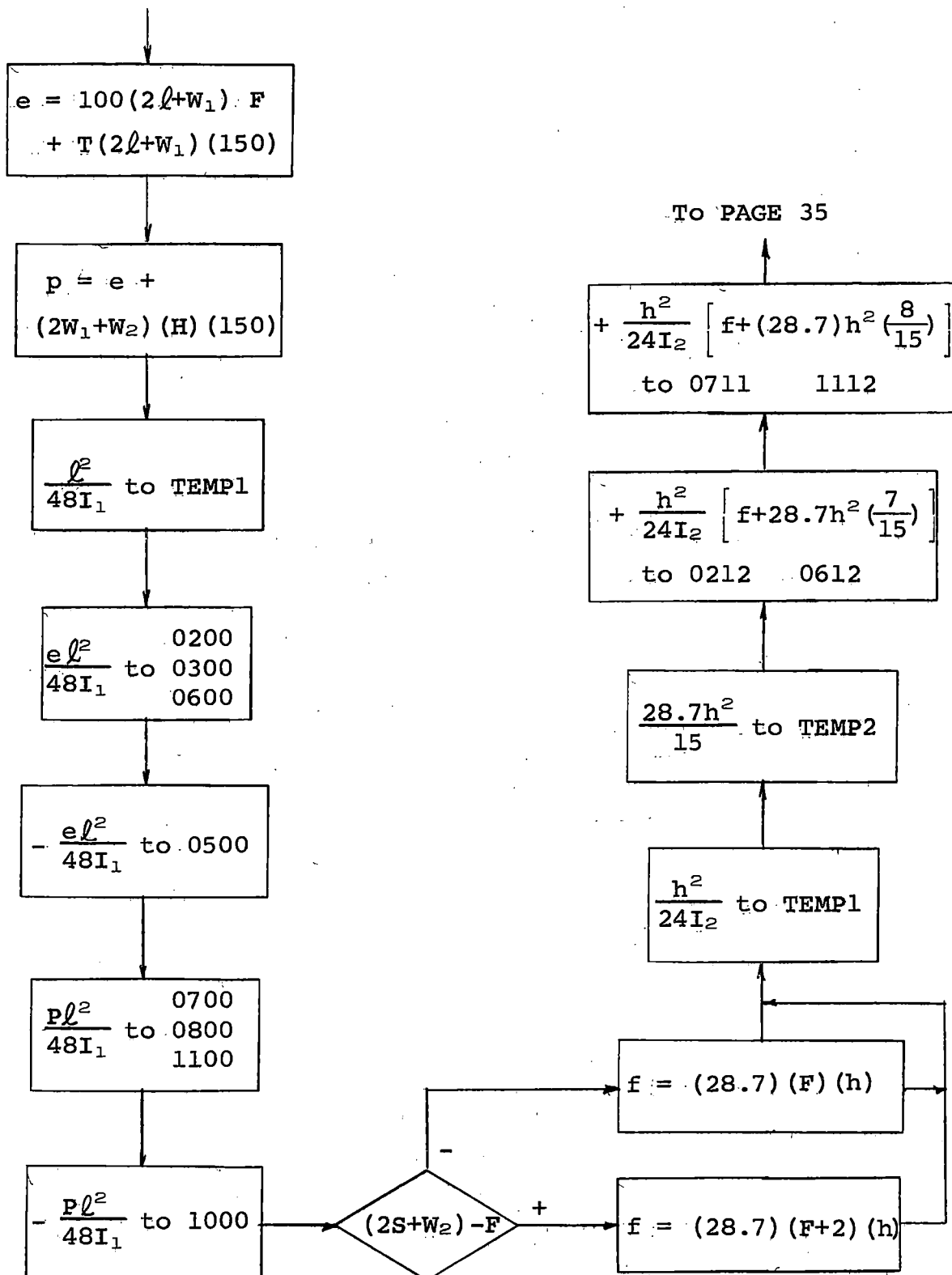
Live Load Sub Routine



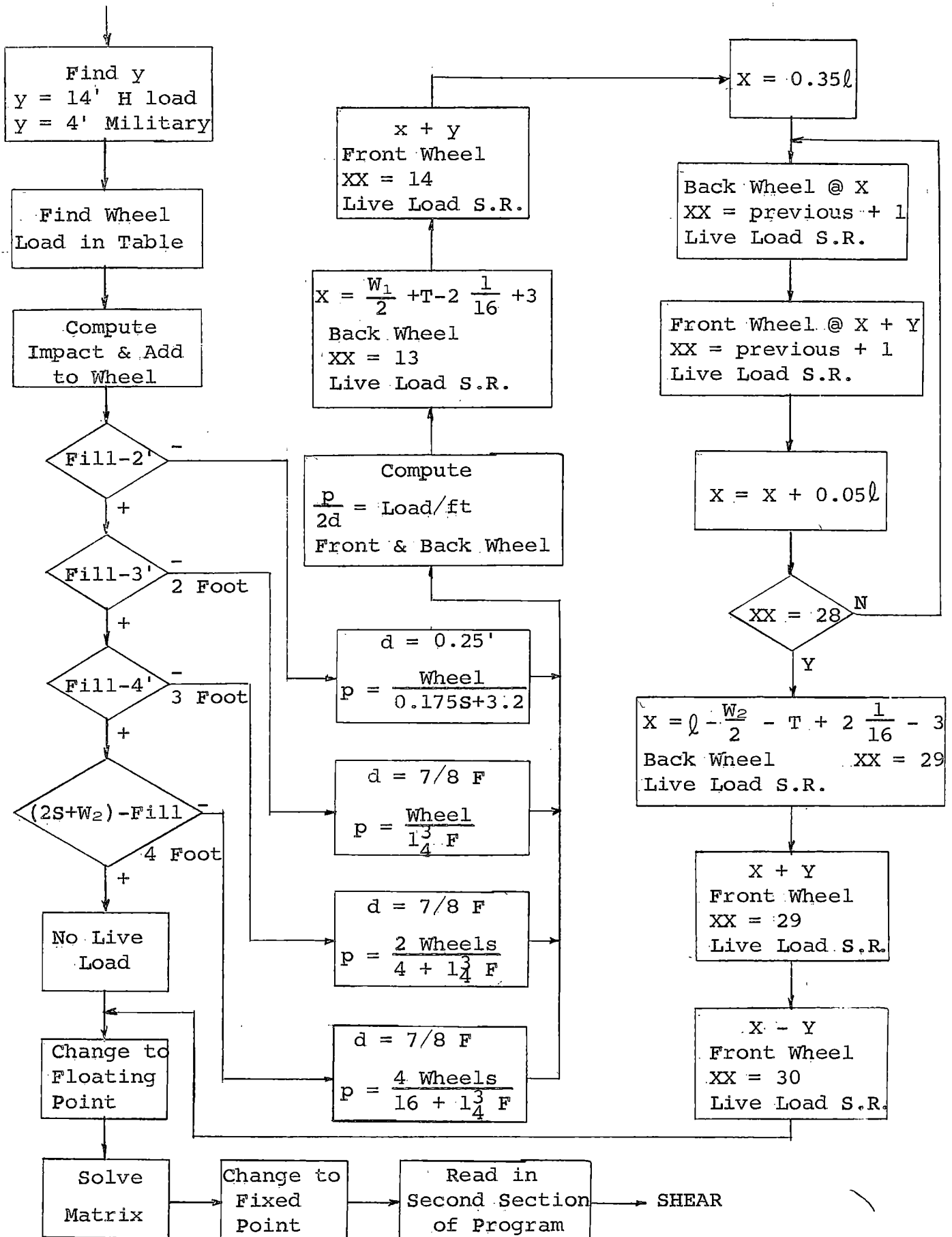
Fill Coefficient Matrix



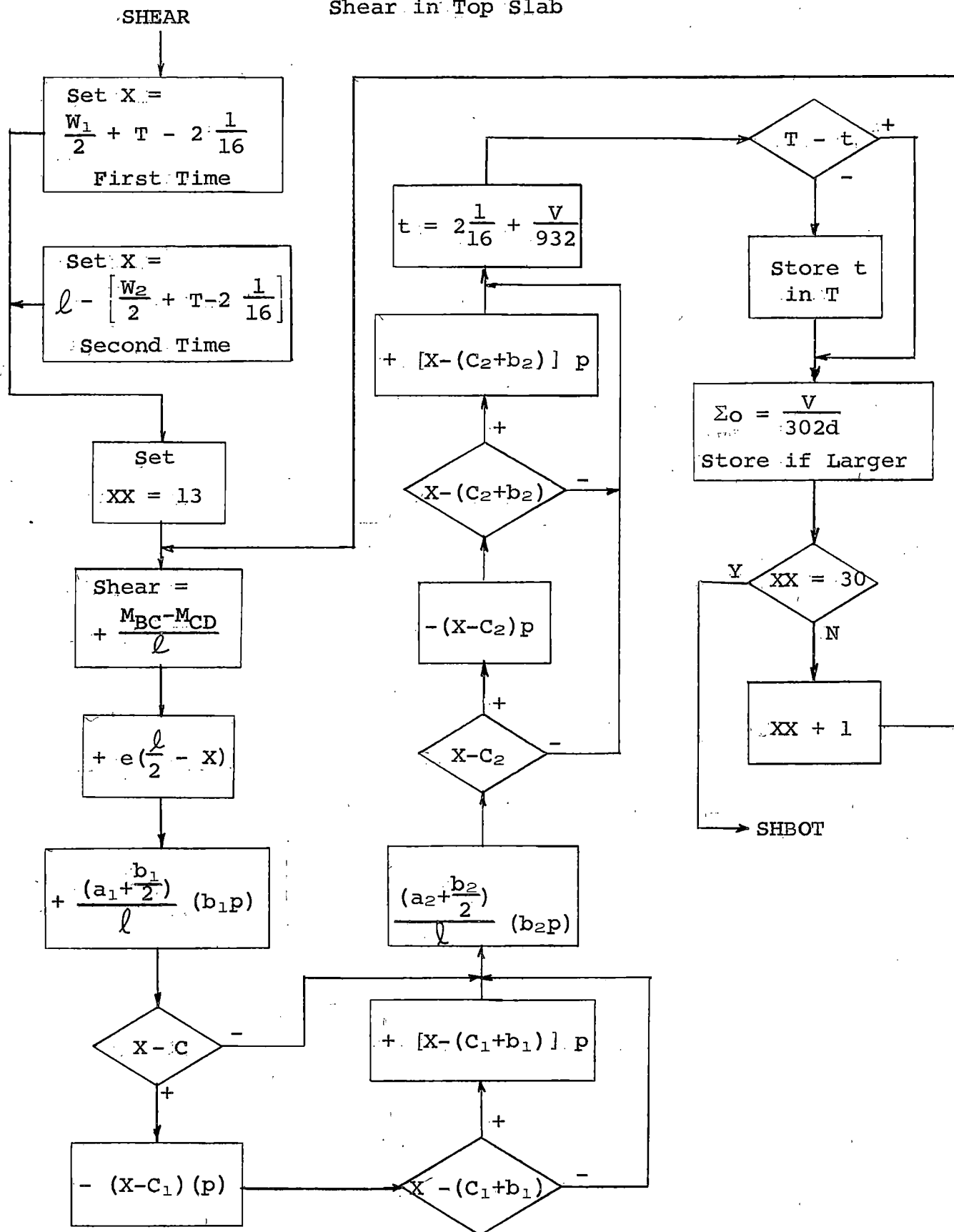
Fill Dead Load Matrix



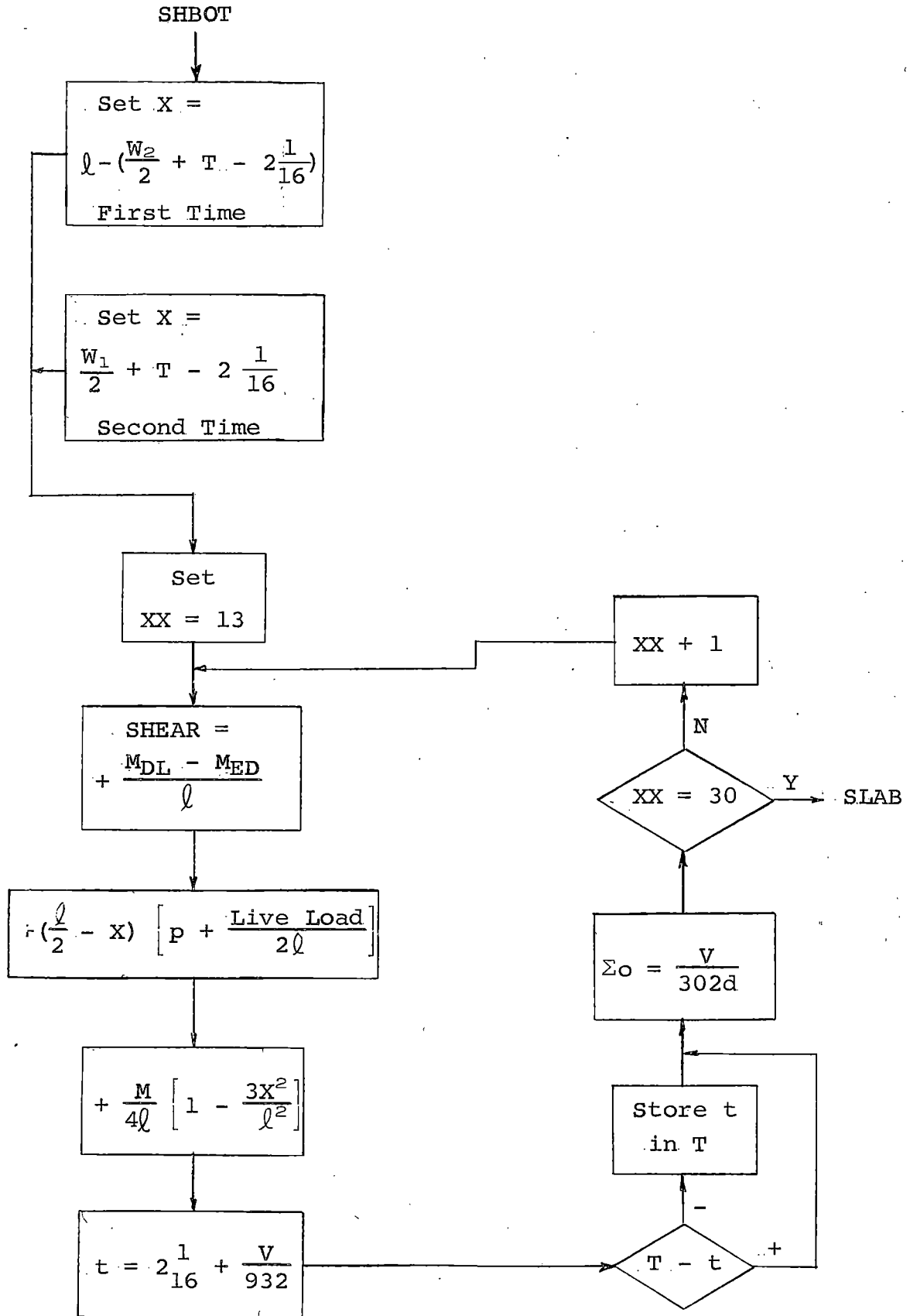
Fill Live Load Matrix



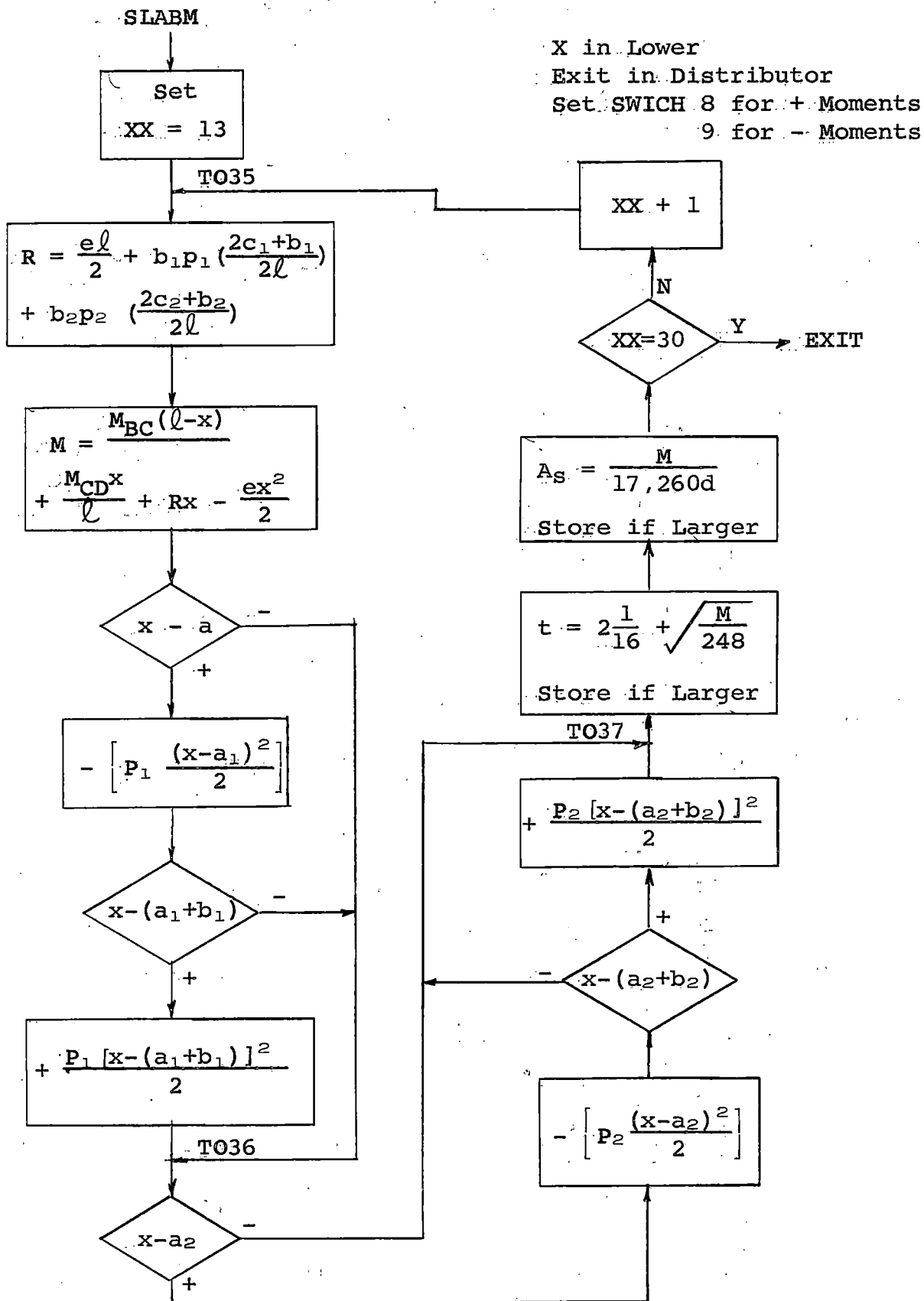
Shear in Top Slab



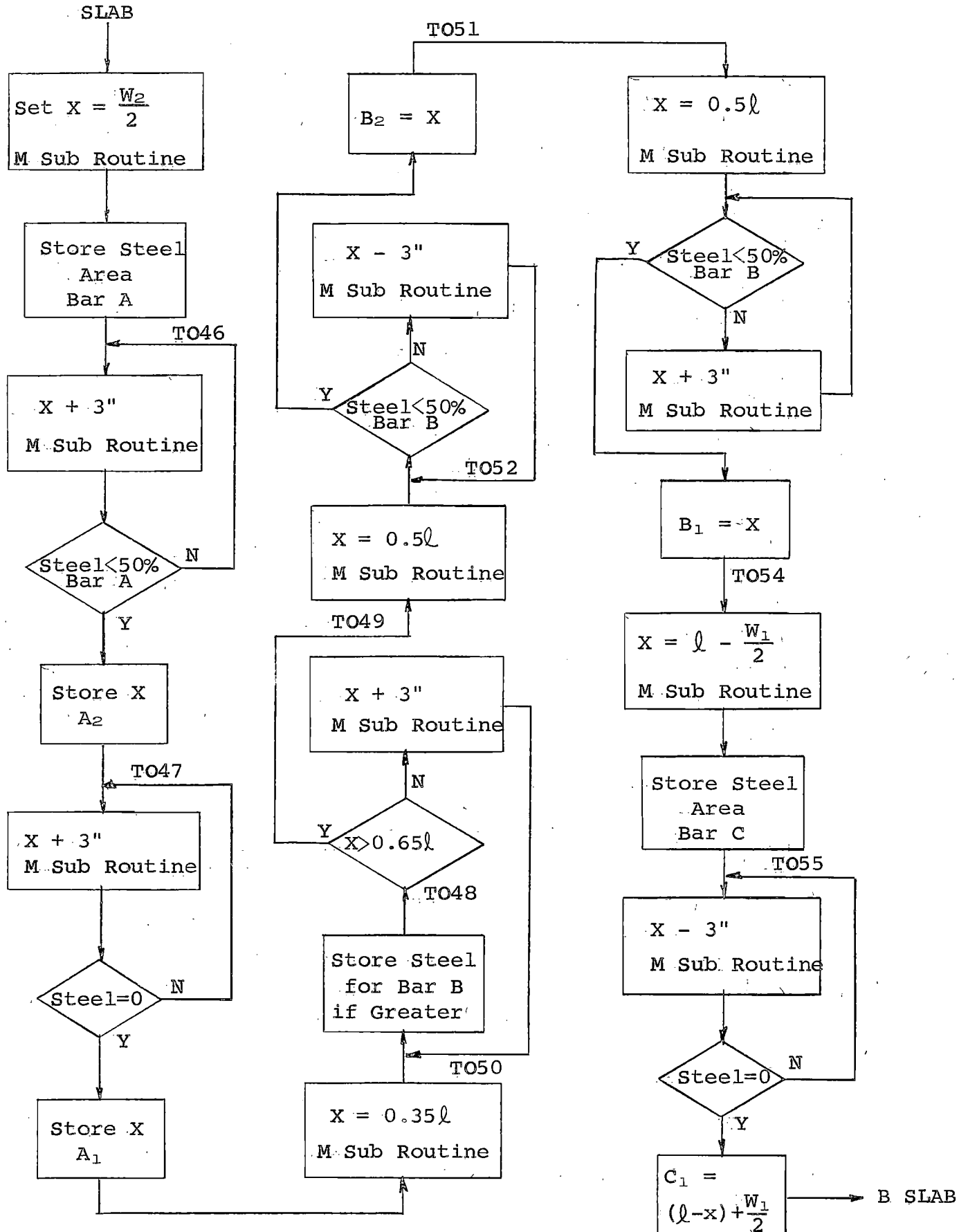
Shear in Bottom Slab



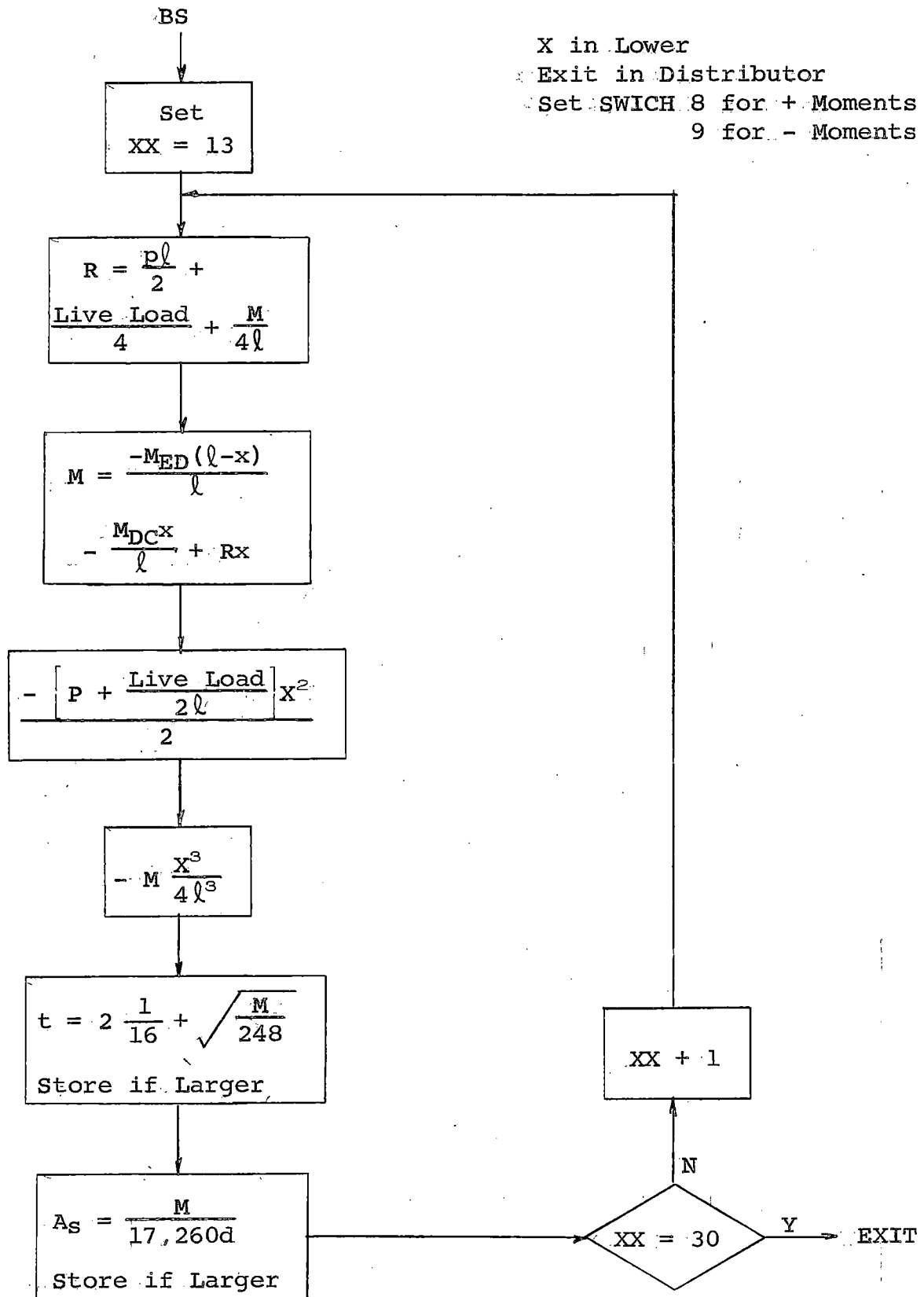
Top Slab Moment Sub Routine



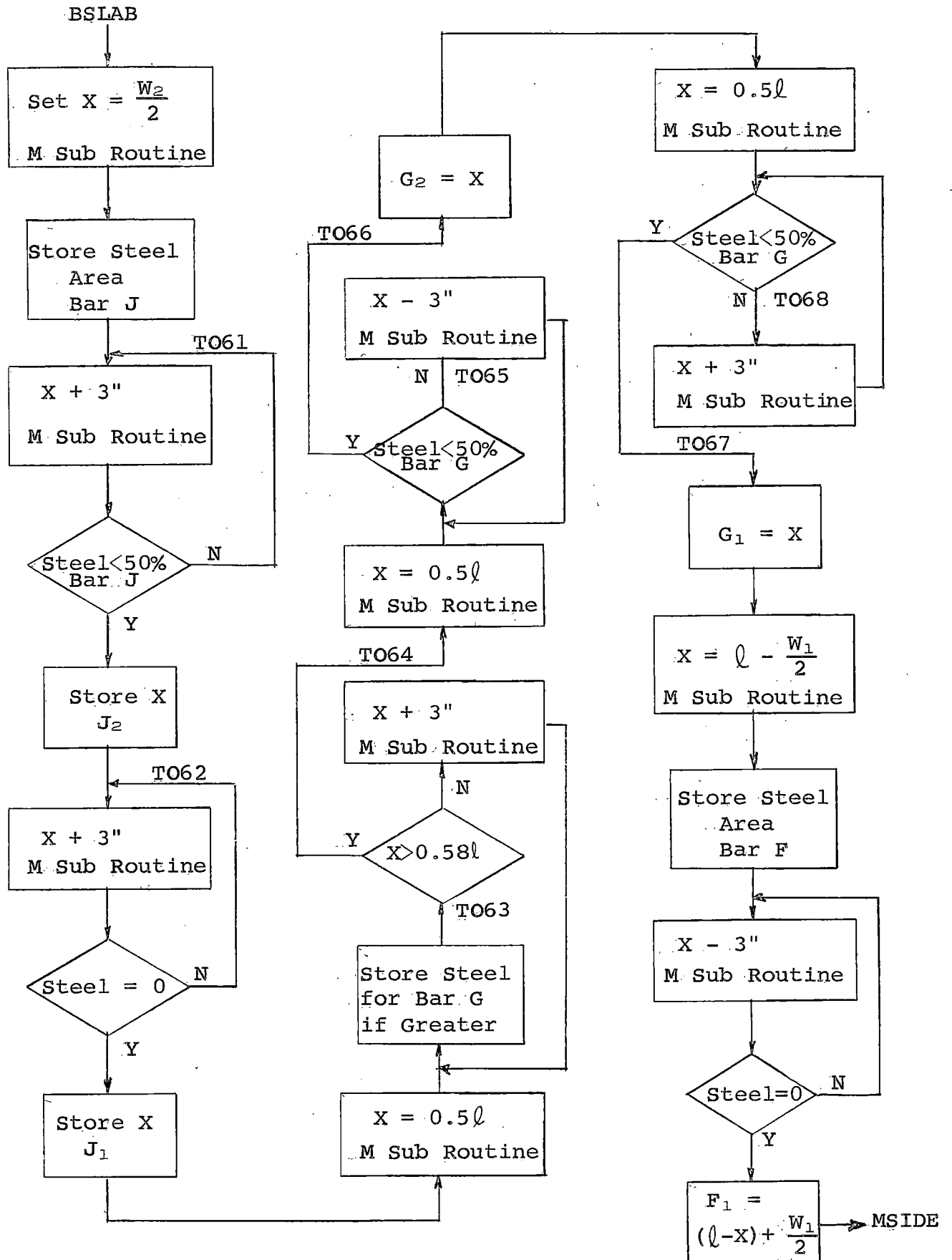
Steel Areas and Cutoff Lengths in Top Slab



Bottom Slab Moment Sub Routine



Steel Areas and Cutoff Lengths in Bottom Slab



Side Wall Moment Sub Routine

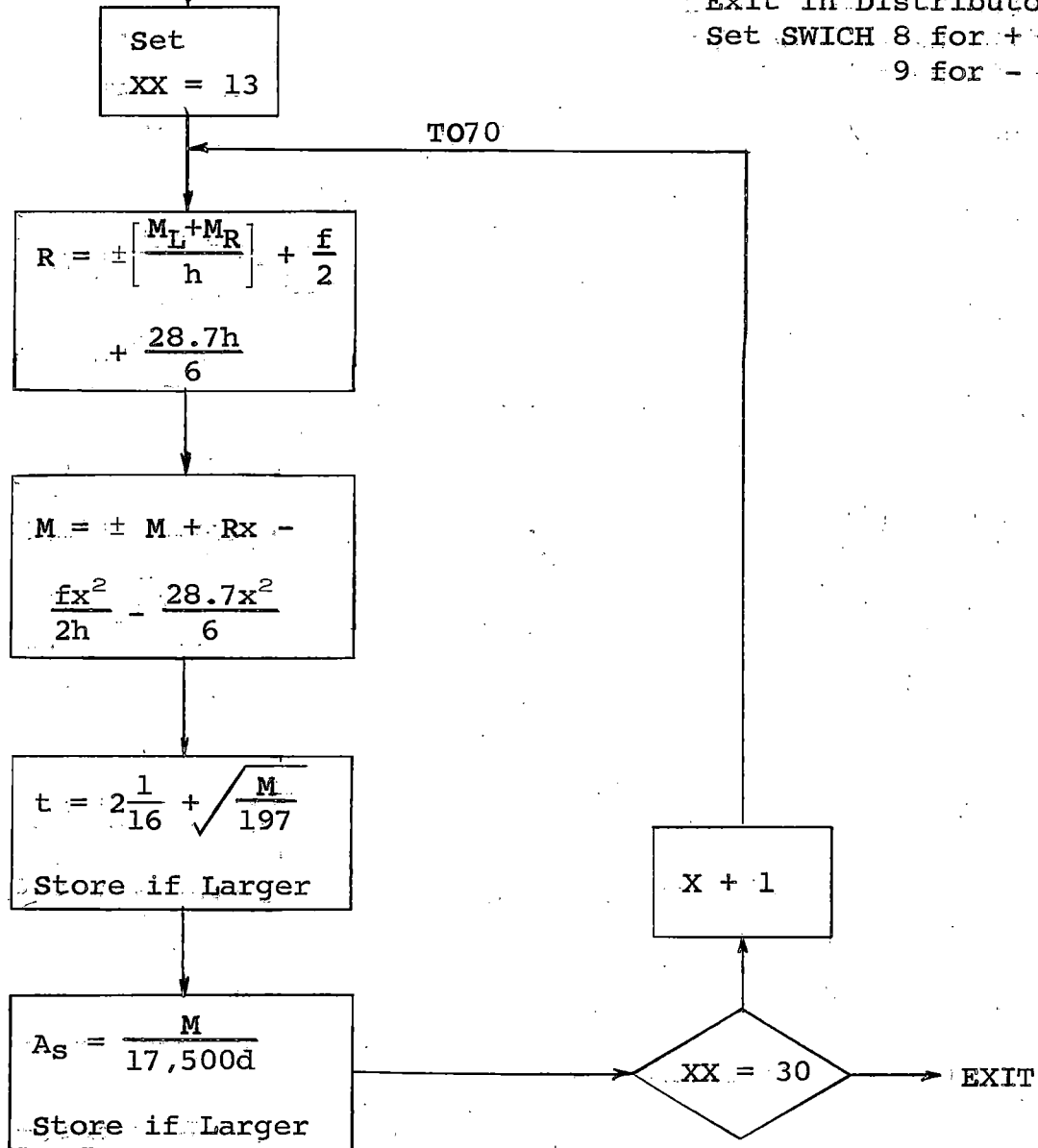
SIDEM

X in Lower

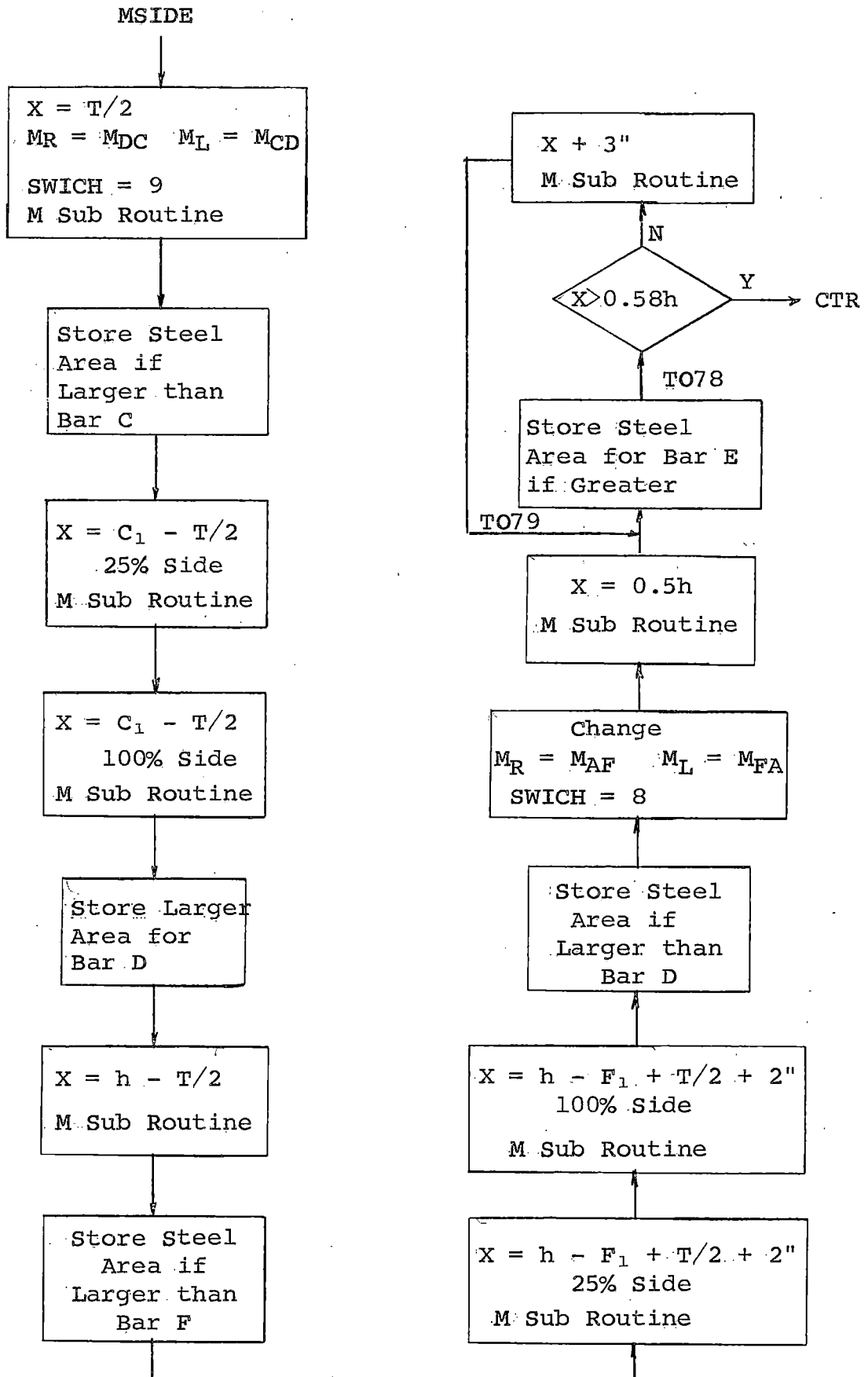
Exit in Distributor

Set SWITCH 8 for + Moments

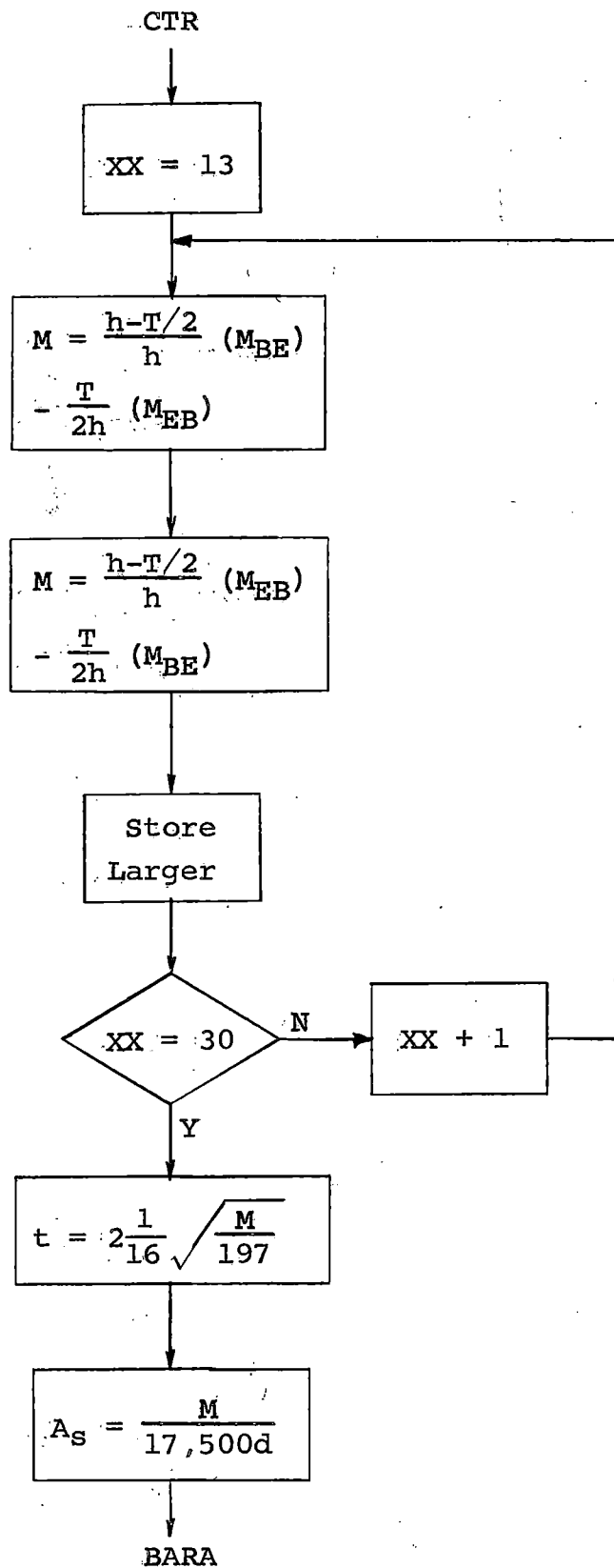
9 for - Moments



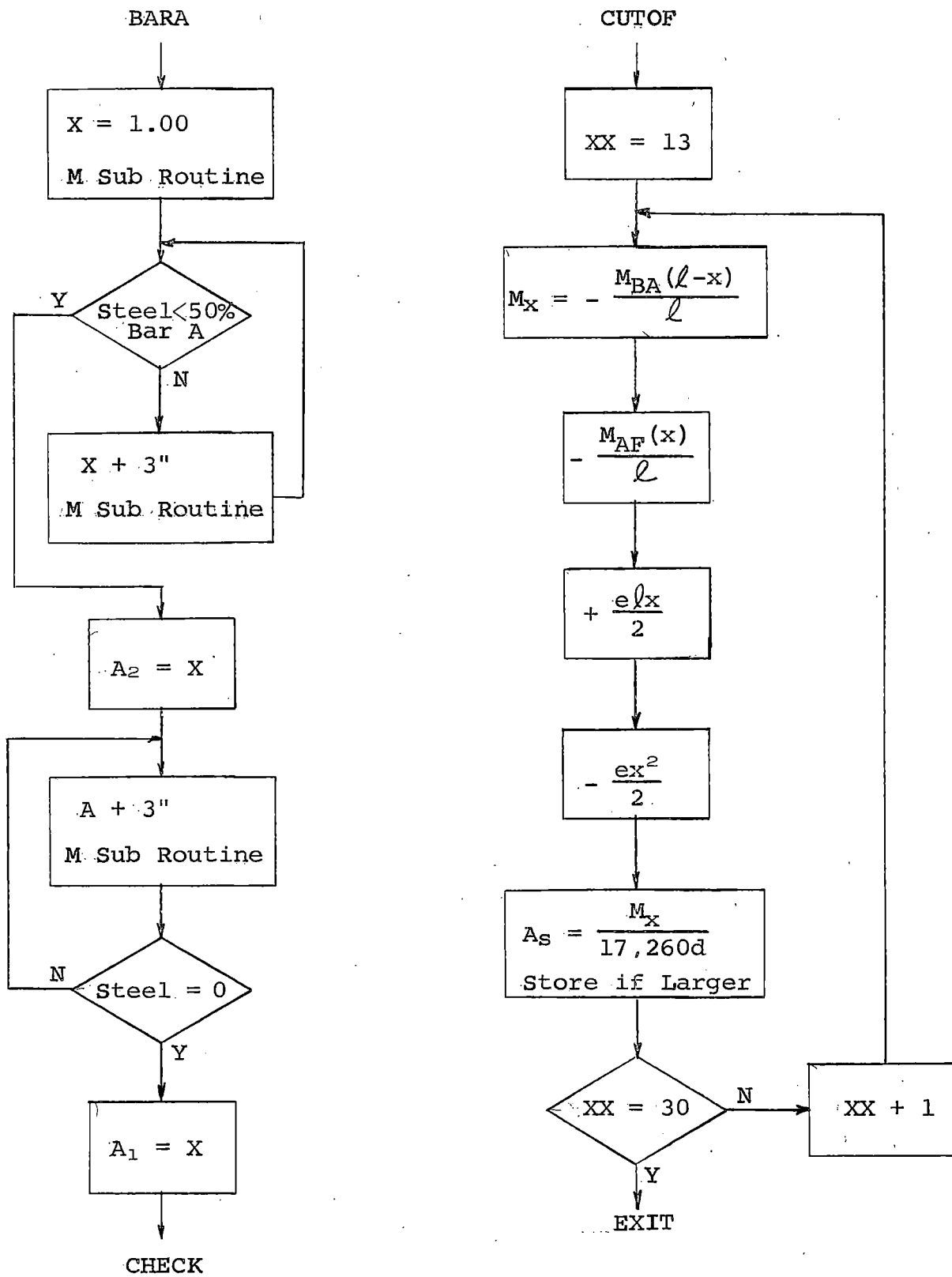
Side Wall Steel Areas

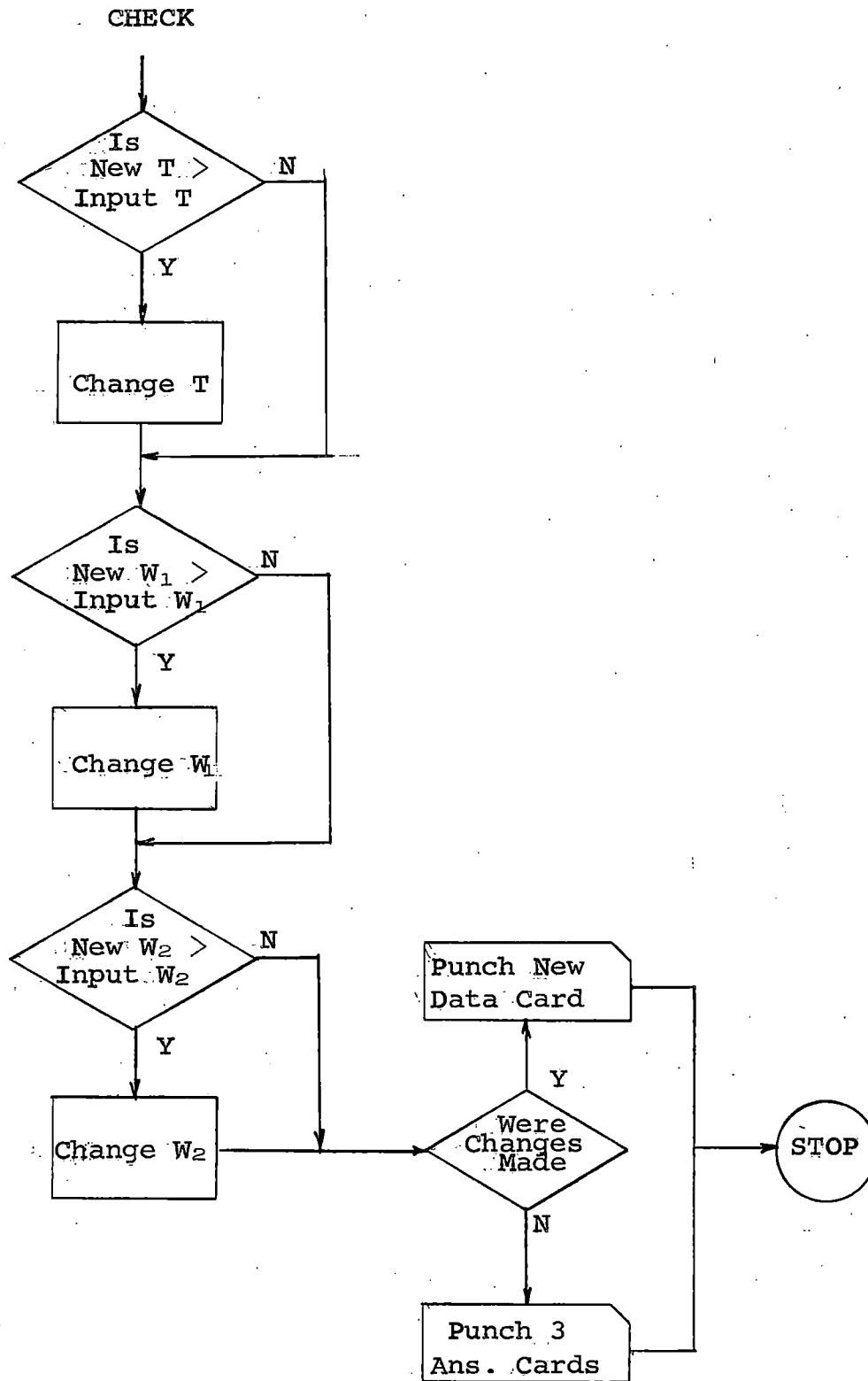


Center Wall Steel



Bar A Cutoff Lengths





DRUM STORAGE LAYOUT FORM

00		01		02		03		04		05		06		07		08		09			
00	50	VDL	00	50	00	50	00	50	00	50	00	50	00	50	00	50	00	50	00	50	
01	51		01	51	01	51	01	51	01	51	01	51	01	51	01	51	01	51	01	51	
02	52		02	52	02	52	02	52	02	52	02	52	02	52	02	52	02	52	02	52	
03	53		03	53	03	53	03	53	03	53	03	53	03	53	03	53	03	53	03	53	
04	54		04	54	04	54	04	54	04	54	04	54	04	54	04	54	04	54	04	54	
05	55		05	55	05	55	05	55	05	55	05	55	05	55	05	55	05	55	05	55	
06	56		06	56	06	56	06	56	06	56	06	56	06	56	06	56	06	56	06	56	
07	57		07	57	07	57	07	57	07	57	07	57	07	57	07	57	07	57	07	57	
08	58		08	58	08	58	08	58	08	58	08	58	08	58	08	58	08	58	08	58	
09	59		09	59	09	59	09	59	09	59	09	59	09	59	09	59	09	59	09	59	
10	60		10	60	10	60	10	60	10	60	10	60	10	60	10	60	10	60	10	60	
PIVOTAL ROW	11	61	11	61	11	61	11	61	11	61	11	61	11	61	11	61	11	61	11	61	
	12	62	HDL	12	62	12	62	12	62	12	62	12	62	12	62	12	62	12	62	12	62
	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	
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	16	66	16	66	16	66	16	66	16	66	16	66	16	66	16	66	16	66	16	66	
	17	67	17	67	17	67	17	67	17	67	17	67	17	67	17	67	17	67	17	67	
	18	68	18	68	18	68	18	68	18	68	18	68	18	68	18	68	18	68	18	68	
	19	69	19	69	19	69	19	69	19	69	19	69	19	69	19	69	19	69	19	69	
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23	73	23	73	23	73	23	73	23	73	23	73	23	73	23	73	23	73	23	73		
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25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75		
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31	81	31	81	31	81	31	81	31	81	31	81	31	81	31	81	31	81	31	81		
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33	83	33	83	33	83	33	83	33	83	33	83	33	83	33	83	33	83	33	83		
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49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99		

DRUM STORAGE LAYOUT FORM

		10		11		12		13		14		15		16		17		18		19	
	00	50	00	50	00	50	00	50	00	50	00	50	00	50	00	50	00	50	00	50	
	01	51	01	51	01	51	01	51	01	51	01	51	01	51	01	51	01	51	01	51	
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ROW 10	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	13	63	
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	48	98	48	98	48	98	48	98	48	98	48	98	48	98	48	98	48	98	48	98	
	49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99	49	99	

INPUT AREA 1 (OP 70, 72)

OUTPUT AREA 3 (OP 74)
 OUTPUT AREA 3 (OP 77)

OUTPUT AREA 1 (OP 71)

INPUT AREA 2 (OP 73, 75)
 INPUT AREA 3 (OP 76, 78)

RESERVED LOCATIONS

WHEEL LOADS

READ

PER CARD LOADER

CONTR. 7
 LOAD-10 8
 SPAN 79
 W₁ 80
 W₂ 81
 A₁ 82
 F 83
 PER C 33
 T 83
 PER F 34
 FILL 84
 B₁ 85
 G₁ 85
 PER J 35
 85
 B₂ 86
 G₂ 86
 SIZE 36
 0080-86

PER CARD LOADER

		TWIN BOX CULVERT		1ST HALF					
10	1	REL	1200		SIR				
20		RBR	0000	0399	SIR				
30		REQ	FIX	0200		1			
40		REQ	FLOAT	0229		2			
50		REQ	INT	0280		3			
60	2	0200	HLT	F0093	F8000	MAIN	004	1400	01 0093 8000
70	2	0229	HLT	F0092	F8000	MAIN	005	1429	01 0092 8000
80	2	0335	HLT	F0091	F8000	MAIN	006	1535	01 0091 8000
90	2	0004	HLT	F0094	F8000	MAIN	007	1204	01 0094 8000
100	2	0000	NOP	F0000	0122	MAIN	008	1200	00 0000 1322
110	2	0001	HLT	F0000	0122	MAIN	009	1201	01 0000 1322
120	2	0003	RAL	F8002	0261	MAIN	010	1203	65 8002 1461
130	2	0005	HLT	F0095	F8000	MAIN	011	1205	01 0095 8000
140	2	0006	HLT	F0096	F8000	MAIN	012	1206	01 0096 8000
150	2	0007	HLT	F0097	F8000	MAIN	013	1207	01 0097 8000
160	2	0008	HLT	F0098	F8000	MAIN	014	1208	01 0098 8000
170	2	0009	HLT	F0099	F8000	MAIN	015	1209	01 0099 8000
180	2	0010	RAL	F8001	0123	MAIN	016	1210	65 8001 1323
190	2	0011	RSL	F8001	0123	MAIN	017	1211	66 8001 1323
200	2	0014	RAL	F8001	0056	MAIN	018	1214	65 8001 1256
210	2	0015	RAL	F8001	0123	MAIN	019	1215	65 8001 1323
220	2	0016	RSL	F8001	0123	MAIN	020	1216	66 8001 1323
230	2	0017	RAM	F8001	0123	MAIN	021	1217	67 8001 1323
240	2	0018	RSM	F8001	0123	MAIN	022	1218	68 8001 1323
250	2	0019	RAL	F8001	0029	MAIN	023	1219	65 8001 1229
260	2	0020	SRT	F0002	0077	MAIN	024	1220	30 0002 1277
270	2	0021	SRT	F0002	0077	MAIN	025	1221	30 0002 1277
280	2	0022	SRT	F0002	0077	MAIN	026	1222	30 0002 1277
290	2	0023	SRT	F0002	0077	MAIN	027	1223	30 0002 1277
300	2	0024	SRT	F0002	0077	MAIN	028	1224	30 0002 1277
310	2	0030	RSL	F8002	0097	MAIN	029	1230	66 8002 1297
320	2	0035	RAL	F8002	0097	MAIN	030	1235	65 8002 1297
330	2	0044	RAU	0104	0209	MAIN	031	1244	60 1304 1409
340	2	0045	RAU	0104	0212	MAIN	032	1245	60 1304 1412
350	2	0046	RAU	0104	0213	MAIN	033	1246	60 1304 1413
360	2	0047	RAU	0104	0214	MAIN	034	1247	60 1304 1414
370	2	0060	RAL	F8001	0027	MAIN	035	1260	65 8001 1227
380	2	0061	RSL	F8001	0027	MAIN	036	1261	66 8001 1227
390	2	0064	RAL	F8001	0056	MAIN	037	1264	65 8001 1256
400	2	0065	RAL	F8001	0027	MAIN	038	1265	65 8001 1227
410	2	0066	RSL	F8001	0027	MAIN	039	1266	66 8001 1227
420	2	0067	RAM	F8001	0027	MAIN	040	1267	67 8001 1227

430	2	0068	RSM	F8001	0027	MAIN	041	1268	68	8001	1227
440	2	0069	RAL	F8001	0027	MAIN	042	1269	65	8001	1227
450	2	0070	LDD	0074	0177	MAIN	043	1270	69	1274	1377
460	2	0071	LDD	0174	0177	MAIN	044	1271	69	1374	1377
470	2	0119	00	F0000	F0000	MAIN	045	1319	00	0000	0000
480	2	0122	RAL	F0000	0280	MAIN	046	1322	65	0000	1480
490	2	0280	BMI	0335	0084	MAIN	047	1480	46	1535	1284
500	2	0084	LDD	0287	0240	MAIN	048	1284	69	1487	1440
510	2	0240	SDA	0343	0346	MAIN	049	1440	22	1543	1546
520	2	0346	SLT	F0004	0257	MAIN	050	1546	35	0004	1457
530	2	0257	LDD	0162	0217	MAIN	051	1457	69	1362	1417
540	2	0217	SDA	0122	0075	MAIN	052	1417	22	1322	1275
550	2	0075	SRT	F0002	0232	MAIN	053	1275	30	0002	1432
560	2	0232	AUP	0135	0343	MAIN	054	1432	10	1335	1543
570	2	0343	LDD	F0000	F8003	MAIN	055	1543	69	0000	8003
580	2	0287	LDD	F0000	F8003	MAIN	056	1487	69	0000	8003
590	2	0162	RAL	F0000	0280	MAIN	057	1362	65	0000	1480
600	2	0135	00	F0000	0000	MAIN	058	1335	00	0000	1200
610	2	0104	00	F0000	F0000	MAIN	059	1304	00	0000	0000
620	2	0077	LDD	0180	0183	MAIN	060	1277	69	1380	1383
630	2	0183	SDA	0037	0095	MAIN	061	1383	22	1237	1295
640	2	0095	RAL	0104	0210	MAIN	062	1295	65	1304	1410
650	2	0210	BMI	0063	0164	MAIN	063	1410	46	1263	1364
660	2	0063	SUP	0119	0025	MAIN	064	1263	11	1319	1225
670	2	0164	AUP	0119	0025	MAIN	065	1364	10	1319	1225
680	2	0025	SRT	F0002	0037	MAIN	066	1225	30	0002	1237
690	2	0037	STL	F0000	0122	MAIN	067	1237	20	0000	1322
700	2	0180	STL	F0000	0122	MAIN	068	1380	20	0000	1322
710	2	0027	SLT	F0002	0038	MAIN	069	1227	35	0002	1238
720	2	0038	STL	0104	0258	MAIN	070	1238	20	1304	1458
730	2	0258	RAM	F8003	0265	MAIN	071	1458	67	8003	1465
740	2	0265	STL	0119	0122	MAIN	072	1465	20	1319	1322
750	2	0029	SLT	F0002	0085	MAIN	073	1229	35	0002	1285
760	2	0085	STU	0040	0043	MAIN	074	1285	21	1240	1243
770	2	0043	RAU	F8002	0051	MAIN	075	1243	60	8002	1251
780	2	0051	MPY	0104	0078	MAIN	076	1251	19	1304	1278
790	2	0078	NZE	0032	0099	MAIN	077	1278	45	1232	1299
800	2	0032	RAL	F8003	0039	MAIN	078	1232	65	8003	1239
810	2	0039	SLT	F0001	0196	MAIN	079	1239	35	0001	1396
820	2	0196	NZU	0049	0100	MAIN	080	1396	44	1249	1300
830	2	0049	STD	0104	0157	MAIN	081	1249	24	1304	1357
840	2	0157	RSL	0160	0216	MAIN	082	1357	66	1360	1416
850	2	0100	STL	0104	0158	MAIN	083	1300	20	1304	1358

860	2	0158	RSL	0161	0216	MAIN	084	1358	66	1361	1416
870	2	0216	AML	0119	0028	MAIN	085	1416	17	1319	1228
880	2	0028	AML	0040	0048	MAIN	086	1228	17	1240	1248
890	2	0048	STL	0119	0122	MAIN	087	1248	20	1319	1322
900	2	0160	00	F0000	F0049	MAIN	088	1360	00	0000	0049
910	2	0161	00	F0000	F0050	MAIN	089	1361	00	0000	0050
920	2	0040	00	F0000	F0000	MAIN	090	1240	00	0000	0000
930	2	0056	SLT	F0002	0013	MAIN	091	1256	35	0002	1213
940	2	0013	STL	0168	0171	MAIN	092	1213	20	1368	1371
950	2	0171	STU	0026	0179	MAIN	093	1371	21	1226	1379
960	2	0179	RAU	0104	0159	MAIN	094	1379	60	1304	1359
970	2	0159	SRT	F0001	0215	MAIN	095	1359	30	0001	1415
980	2	0215	DVR	0168	0278	MAIN	096	1415	64	1368	1478
990	2	0278	NZE	0033	0122	MAIN	097	1478	45	1233	1322
1000	2	0033	SLT	F0001	0190	MAIN	098	1233	35	0001	1390
1010	2	0190	NZU	0193	0094	MAIN	099	1390	44	1393	1294
1020	2	0193	SRT	F0001	0249	MAIN	100	1393	30	0001	1449
1030	2	0249	STL	0104	0208	MAIN	101	1449	20	1304	1408
1040	2	0208	RAL	0161	0266	MAIN	102	1408	65	1361	1466
1050	2	0094	STL	0104	0207	MAIN	103	1294	20	1304	1407
1060	2	0207	RAL	0160	0266	MAIN	104	1407	65	1360	1466
1070	2	0266	AML	0119	0073	MAIN	105	1466	17	1319	1273
1080	2	0073	SML	0026	0034	MAIN	106	1273	18	1226	1234
1090	2	0034	STL	0119	0122	MAIN	107	1234	20	1319	1322
1100	2	0160	00	F0000	F0049	MAIN	108	1360	00	0000	0049
1110	2	0161	00	F0000	F0050	MAIN	109	1361	00	0000	0050
1120	2	0168	00	F0000	F0000	MAIN	110	1368	00	0000	0000
1130	2	0026	00	F0000	F0000	MAIN	111	1226	00	0000	0000
1140	2	0123	SLT	F0002	0129	MAIN	112	1323	35	0002	1329
1150	2	0129	STL	0133	0148	MAIN	113	1329	20	1333	1348
1160	2	0148	RAM	F8003	0105	MAIN	114	1348	67	8003	1305
1170	2	0105	STL	0111	0116	MAIN	115	1305	20	1311	1316
1180	2	0116	SML	0119	0173	MAIN	116	1316	18	1319	1373
1190	2	0173	NZE	0126	0127	MAIN	117	1373	45	1326	1327
1200	2	0127	RAL	0133	0101	MAIN	118	1327	65	1333	1301
1210	2	0126	SLT	F0004	0137	MAIN	119	1326	35	0004	1337
1220	2	0137	BMI	0140	0141	MAIN	120	1337	46	1340	1341
1230	2	0140	LDD	0143	0146	MAIN	121	1340	69	1343	1346
1240	2	0146	SDA	0149	0052	MAIN	122	1346	22	1349	1252
1250	2	0052	ALO	0106	0112	MAIN	123	1252	15	1306	1312
1260	2	0112	BMI	0122	0124	MAIN	124	1312	46	1322	1324
1270	2	0124	RAL	0133	0149	MAIN	125	1324	65	1333	1349
1280	2	0149	SRD	F0000	0101	MAIN	126	1349	31	0000	1301

1290	2	0101	ALO	0104	0109	MAIN	127	1301	15	1304	1309
1300	2	0109	NZE	0062	0099	MAIN	128	1309	45	1262	1299
1310	2	0062	NZU	0115	0117	MAIN	129	1262	44	1315	1317
1320	2	0115	LDD	0119	0172	MAIN	130	1315	69	1319	1372
1330	2	0172	SRD	F0001	0079	MAIN	131	1372	31	0001	1279
1340	2	0079	BMI	0132	0083	MAIN	132	1279	46	1332	1283
1350	2	0132	SUP	F8001	0138	MAIN	133	1332	11	8001	1338
1360	2	0138	SUP	0144	0099	MAIN	134	1338	11	1344	1299
1370	2	0083	AUP	F8001	0139	MAIN	135	1283	10	8001	1339
1380	2	0139	AUP	0144	0099	MAIN	136	1339	10	1344	1299
1390	2	0099	STL	0104	0107	MAIN	137	1299	20	1304	1307
1400	2	0107	RAM	F8003	0165	MAIN	138	1307	67	8003	1365
1410	2	0165	STL	0119	0122	MAIN	139	1365	20	1319	1322
1420	2	0117	RAU	F8002	0128	MAIN	140	1317	60	8002	1328
1430	2	0128	SCT	F0000	0050	MAIN	141	1328	36	0000	1250
1440	2	0050	STU	0104	0057	MAIN	142	1250	21	1304	1257
1450	2	0057	RSM	F8002	0166	MAIN	143	1257	68	8002	1366
1460	2	0166	AML	0119	0165	MAIN	144	1366	17	1319	1365
1470	2	0141	LDD	0145	0053	MAIN	145	1341	69	1345	1253
1480	2	0053	SDA	0059	0118	MAIN	146	1253	22	1259	1318
1490	2	0118	SLO	0121	0125	MAIN	147	1318	16	1321	1325
1500	2	0125	BMI	0131	0130	MAIN	148	1325	46	1331	1330
1510	2	0131	RAL	0104	0059	MAIN	149	1331	65	1304	1259
1520	2	0059	SRD	F0000	0080	MAIN	150	1259	31	0000	1280
1530	2	0080	ALO	0133	0087	MAIN	151	1280	15	1333	1287
1540	2	0087	NZE	0090	0099	MAIN	152	1287	45	1290	1299
1550	2	0090	NZU	0093	0096	MAIN	153	1290	44	1293	1296
1560	2	0093	SRD	F0001	0199	MAIN	154	1293	31	0001	1399
1570	2	0199	STL	0104	0108	MAIN	155	1399	20	1304	1308
1580	2	0108	RAM	0111	0120	MAIN	156	1308	67	1311	1320
1590	2	0120	ALO	0144	0165	MAIN	157	1320	15	1344	1365
1600	2	0096	RAU	F8002	0110	MAIN	158	1296	60	8002	1310
1610	2	0110	SCT	F0000	0147	MAIN	159	1310	36	0000	1347
1620	2	0147	STU	0104	0113	MAIN	160	1347	21	1304	1313
1630	2	0113	RSM	F8002	0134	MAIN	161	1313	68	8002	1334
1640	2	0134	AML	0111	0165	MAIN	162	1334	17	1311	1365
1650	2	0130	RAL	0133	0142	MAIN	163	1330	65	1333	1342
1660	2	0142	STL	0104	0058	MAIN	164	1342	20	1304	1258
1670	2	0058	LDD	0111	0114	MAIN	165	1258	69	1311	1314
1680	2	0114	STD	0119	0122	MAIN	166	1314	24	1319	1322
1690	2	0143	31	F9999	0101	MAIN	167	1343	31	9999	1301
1700	2	0106	00	F0009	F0000	MAIN	168	1306	00	0009	0000
1710	2	0144	00	F0000	F0001	MAIN	169	1344	00	0000	0001

1720	2	0145	31	F9999	0080	MAIN	170	1345	31	9999	1280
1730	2	0121	00	F0010	F0000	MAIN	171	1321	00	0010	0000
1740	2	0097	LDD	0119	0036	MAIN	172	1297	69	1319	1236
1750	2	0036	SRT	0006	0054	MAIN	173	1236	30	1206	1254
1760	2	0054	ALO	F8001	0163	MAIN	174	1254	15	8001	1363
1770	2	0163	STL	0119	0122	MAIN	175	1363	20	1319	1322
1780	2	0209	NZU	0086	0122	MAIN	176	1409	44	1286	1322
1790	2	0212	NZE	0086	0122	MAIN	177	1412	45	1286	1322
1800	2	0213	BMI	0086	0122	MAIN	178	1413	46	1286	1322
1810	2	0214	BOV	0086	0122	MAIN	179	1414	47	1286	1322
1820	2	0086	RAL	0343	0098	MAIN	180	1286	65	1543	1298
1830	2	0098	LDD	0102	0055	MAIN	181	1298	69	1302	1255
1840	2	0055	SDA	0122	F8001	MAIN	182	1255	22	1322	8001
1850	2	0102	RAL	F0000	0280	MAIN	183	1302	65	0000	1480
1860	2	0261	SRT	F0002	F8002	MAIN	184	1461	30	0002	8002
1870	2	0177	SRT	F0002	0233	MAIN	185	1377	30	0002	1433
1880	2	0233	SDA	0292	F8001	MAIN	186	1433	22	1492	8001
1890	2	0074	RCD	F0000	0122	MAIN	187	1274	70	0000	1322
1900	2	0174	PCH	F0000	0122	MAIN	188	1374	71	0000	1322
1910	2	0229	STD	0182	0185	FLOAT	001	1429	24	1382	1385
1920	2	0185	LDD	0088	0041	FLOAT	002	1385	69	1288	1241
1930	2	0041	SDA	0195	0198	FLOAT	003	1241	22	1395	1398
1940	2	0198	LDD	0151	0154	FLOAT	004	1398	69	1351	1354
1950	2	0154	SDA	0223	0076	FLOAT	005	1354	22	1423	1276
1960	2	0076	SLT	F0004	0187	FLOAT	006	1276	35	0004	1387
1970	2	0187	SDA	0191	0167	FLOAT	007	1387	22	1391	1367
1980	2	0167	SRT	F0002	0175	FLOAT	008	1367	30	0002	1375
1990	2	0175	RAL	F8003	0136	FLOAT	009	1375	65	8003	1336
2000	2	0136	ALO	0091	0197	FLOAT	010	1336	15	1291	1397
2010	2	0197	STL	0153	0223	FLOAT	011	1397	20	1353	1423
2020	2	0223	RAU	F0000	0260	FLOAT	012	1423	60	0000	1460
2030	2	0260	NZE	0264	0195	FLOAT	013	1460	45	1464	1395
2040	2	0264	SCT	F0000	0031	FLOAT	014	1464	36	0000	1231
2050	2	0031	STL	0184	0188	FLOAT	015	1231	20	1384	1388
2060	2	0188	RAL	F8003	0245	FLOAT	016	1388	65	8003	1445
2070	2	0245	BMI	0299	0150	FLOAT	017	1445	46	1499	1350
2080	2	0299	SUP	0153	0072	FLOAT	018	1499	11	1353	1272
2090	2	0150	AUP	0153	0072	FLOAT	019	1350	10	1353	1272
2100	2	0072	SUP	0184	0189	FLOAT	020	1272	11	1384	1389
2110	2	0189	SRT	F0002	0195	FLOAT	021	1389	30	0002	1395
2120	2	0195	STL	F0000	0170	FLOAT	022	1395	20	0000	1370
2130	2	0170	RAL	0223	0228	FLOAT	023	1370	65	1423	1428
2140	2	0228	SLO	0191	0296	FLOAT	024	1428	16	1391	1496

2150	2	0296	NZE	0211	0182	FLOAT	025	1496	45	1411	1382
2160	2	0211	ALO	F8001	0220	FLOAT	026	1411	15	8001	1420
2170	2	0220	ALO	0230	0235	FLOAT	027	1420	15	1430	1435
2180	2	0235	LDD	0088	0291	FLOAT	028	1435	69	1288	1491
2190	2	0291	SDA	0195	0248	FLOAT	029	1491	22	1395	1448
2200	2	0248	STL	0223	F8002	FLOAT	030	1448	20	1423	8002
2210	2	0088	STL	F0000	0170	FLOAT	031	1288	20	0000	1370
2220	2	0082	00	F0000	F0000	FLOAT	032	1282	00	0000	0000
2230	2	0191	00	F0000	F0000	FLOAT	033	1391	00	0000	0000
2240	2	0091	00	F0000	F0049	FLOAT	034	1291	00	0000	0049
2250	2	0153	00	F0000	F0000	FLOAT	035	1353	00	0000	0000
2260	2	0184	00	F0000	F0000	FLOAT	036	1384	00	0000	0000
2270	2	0230	00	F0001	F0000	FLOAT	037	1430	00	0001	0000
2280	2	0151	RAU	F0000	0260	FLOAT	038	1351	60	0000	1460
2290	2	0200	STD	0203	0206	FIX	001	1400	24	1403	1406
2300	2	0206	LDD	0259	0012	FIX	002	1406	69	1459	1212
2310	2	0012	SDA	0315	0218	FIX	003	1212	22	1515	1418
2320	2	0218	LDD	0221	0224	FIX	004	1418	69	1421	1424
2330	2	0224	SDA	0239	0243	FIX	005	1424	22	1439	1443
2340	2	0243	SLT	F0004	0155	FIX	006	1443	35	0004	1355
2350	2	0155	SDA	0221	0176	FIX	007	1355	22	1421	1376
2360	2	0176	SRT	F0002	0234	FIX	008	1376	30	0002	1434
2370	2	0234	RAL	F8003	0092	FIX	009	1434	65	8003	1292
2380	2	0092	ALO	0246	0201	FIX	010	1292	15	1446	1401
2390	2	0201	STL	0222	0239	FIX	011	1401	20	1422	1439
2400	2	0239	RAL	F0000	0237	FIX	012	1439	65	0000	1437
2410	2	0237	SLT	F0002	0293	FIX	013	1437	35	0002	1493
2420	2	0293	STL	0247	0202	FIX	014	1493	20	1447	1402
2430	2	0202	RAM	F8003	0262	FIX	015	1402	67	8003	1462
2440	2	0262	SLO	0222	0277	FIX	016	1462	16	1422	1477
2450	2	0277	SLT	F0004	0238	FIX	017	1477	35	0004	1438
2460	2	0238	BMI	0241	0192	FIX	018	1438	46	1441	1392
2470	2	0241	LDD	0194	0298	FIX	019	1441	69	1394	1498
2480	2	0192	LDD	0295	0298	FIX	020	1392	69	1495	1498
2490	2	0298	SDA	0251	0204	FIX	021	1498	22	1451	1404
2500	2	0204	RAM	F8002	0263	FIX	022	1404	67	8002	1463
2510	2	0263	SLO	0219	0225	FIX	023	1463	16	1419	1425
2520	2	0225	BMI	0178	0315	FIX	024	1425	46	1378	1515
2530	2	0178	RAU	0247	0251	FIX	025	1378	60	1447	1451
2540	2	0251	00	F0000	0315	FIX	026	1451	00	0000	1515
2550	2	0315	STU	F0000	0186	FIX	027	1515	21	0000	1386
2560	2	0186	RSL	0239	0244	FIX	028	1386	66	1439	1444
2570	2	0244	SLO	0297	0205	FIX	029	1444	16	1497	1405

2580	2	0205	LDD	0259	0312	FIX	030	1405	69	1459	1512
2590	2	0312	SDA	0315	0268	FIX	031	1512	22	1515	1468
2600	2	0268	ALO	0221	0275	FIX	032	1468	15	1421	1475
2610	2	0275	BMI	0203	0279	FIX	033	1475	46	1403	1479
2620	2	0279	SLO	F8001	0285	FIX	034	1479	16	8001	1485
2630	2	0285	RSL	F8002	0250	FIX	035	1485	66	8002	1450
2640	2	0250	STL	0239	F8001	FIX	036	1450	20	1439	8001
2650	2	0246	00	F0000	F0049	FIX	037	1446	00	0000	0049
2660	2	0259	STU	F0000	0186	FIX	038	1459	21	0000	1386
2670	2	0221	RAL	F0000	0237	FIX	039	1421	65	0000	1437
2680	2	0194	SRT	F0000	0315	FIX	040	1394	30	0000	1515
2690	2	0295	SLT	F0000	0315	FIX	041	1495	35	0000	1515
2700	2	0219	00	F0010	F0000	FIX	042	1419	00	0010	0000
2710	2	0247	00	F0000	F0000	FIX	043	1447	00	0000	0000
2720	2	0297	00	F0001	F0000	FIX	044	1497	00	0001	0000
2730	2	0222	00	F0000	F0000	FIX	045	1422	00	0000	0000
2740	2	0203	00	F0000	F0000	FIX	046	1403	00	0000	0000
2750			BLR	0000	0030						
2760			BLR	0100	0130						
2770			BLR	0163	0180	A1					
2780			BLR	0200	0230						
2790			BLR	0263	0280	B1					
2800			BLR	0300	0330						
2810			BLR	0363	0380	A2					
2820			BLR	0400	0430						
2830			BLR	0463	0480	B2					
2840			BLR	0500	0530						
2850			BLR	0563	0580	LIVE LOAD					
2860			BLR	0600	0630						
2870			BLR	0663	0680	LL MOMENT					
2880			BLR	0700	0730						
2890			BLR	0800	0830						
2900			BLR	0900	0930						
2910			BLR	1000	1030						
2920			BLR	1100	1130						
2930			BLR	1850	1873						
2940			BLR	1901	1905						
2950			BLR	1961	1999						
2960			REG	R1951	1960						
2970			REG	X1827	1836						
2980			REG	Y1877	1886						
2990			REG	Z1927	1936						
3000			SYN	START	0050						

3010	MATRX	STD	EXIT		0150	24	0053	0056
3020		RAL	FL1		0056	65	0059	0063
3030		LDD		FLOAT	0063	69	0066	1429
3040		RAL	FL2		0066	65	0069	0073
3050		LDD		FLOAT	0073	69	0076	1429
3060		RAL	FL3		0076	65	0079	0033
3070		LDD		FLOAT	0033	69	0036	1429
3080		RAL	FL4		0036	65	0039	0043
3090		LDD		FLOAT	0043	69	0046	1429
3100		RAL	FL5		0046	65	0049	0153
3110		LDD		FLOAT	0153	69	0156	1429
3120		RAL	FL6		0156	65	0159	0763
3130		LDD		FLOAT	0763	69	0766	1429
3140		RAL	FL7		0766	65	0769	0773
3150		LDD		FLOAT	0773	69	0776	1429
3160		RAL	FL8		0776	65	0779	0083
3170		LDD		FLOAT	0083	69	0086	1429
3180		RAL	FL9		0086	65	0089	0093
3190		LDD		FLOAT	0093	69	0096	1429
3200		RAL	FL10		0096	65	0099	0253
3210		LDD		FLOAT	0253	69	0256	1429
3220		RAL	FL11		0256	65	0259	0863
3230		LDD		FLOAT	0863	69	0866	1429
3240		RAU	8003		0866	60	8003	0873
3250		RAL	8002	BEGIN	0873	65	8002	0031
3260	FL1	05	0100	0130	0059	05	0100	0130
3270	FL2	05	0200	0230	0069	05	0200	0230
3280	FL3	05	0300	0330	0079	05	0300	0330
3290	FL4	05	0400	0430	0039	05	0400	0430
3300	FL5	05	0500	0530	0049	05	0500	0530
3310	FL6	05	0600	0630	0159	05	0600	0630
3320	FL7	05	0700	0730	0769	05	0700	0730
3330	FL8	05	0800	0830	0779	05	0800	0830
3340	FL9	05	0900	0930	0089	05	0900	0930
3350	FL10	05	1000	1030	0099	05	1000	1030
3360	FL11	05	1100	1130	0259	05	1100	1130
3370	BEGIN	ALO	KON1		0031	15	0034	0139
3380		STL	EQUAT		0139	20	0143	0146
3390		SLT	0002		0146	35	0002	0353
3400		ALO	8001		0353	15	8001	0359
3410		SLT	0004		0359	35	0004	0869
3420		ALO		8002	0869	15	0072	8002
3430		LDD	0000		0072	69	0000	0453

3440		STD	TEMP1		DIAGONAL	0453	24	0356	0459
3450		RSL	KON1	DIVID		0459	66	0034	0189
3460	DIVID	ALO	KON1			0189	15	0034	0239
3470		STL	COLMN			0239	20	0193	0196
3480		RAU	EQUAT			0196	60	0143	0047
3490		SLT	0002			0047	35	0002	0553
3500		AUP	COLMN			0553	10	0193	0097
3510		SLT	0004			0097	35	0004	0057
3520		STU	TEMP2			0057	21	0062	0065
3530		AUP		8003		0065	10	0068	8003
3540		RAL	0000			0068	65	0000	0055
3550		NZE		GO1		0055	45	0058	0559
3560		STD	TEMP3			0058	24	0061	0064
3570		RAL		INT		0064	65	0067	1480
3580		RAL	TEMP3			0067	65	0061	0765
3590		DVR	TEMP1			0765	64	0356	0767
3600		STL	TEMP3			0767	20	0061	0764
3610		03	0000			0764	03	0000	0969
3620		RAU	TEMP2			0969	60	0062	0867
3630		AUP	INST2			0867	10	0070	0075
3640		LDD	TEMP3	8003		0075	69	0061	8003
3650	INST2	STD	0000	GO1		0070	24	0000	0559
3660	GO1	RAL	COLMN			0559	65	0193	0147
3670		SLO	KON30		COLUMNS	0147	16	0250	0155
3680		NZE		SUB		0155	45	0158	0659
3690		ALO	8001	DIVID		0158	15	8001	0189
3700	SUB	ALO	KON1			0659	15	0034	0289
3710		STL	ROW			0289	20	0243	0246
3720		SLO	EQUAT			0246	16	0143	0197
3730		NZE		UPDATE		0197	45	0350	0051
3740		RAU	ROW			0350	60	0243	0247
3750		SLT	0002			0247	35	0002	0653
3760		AUP	EQUAT			0653	10	0143	0297
3770		SLT	0004			0297	35	0004	0157
3780		AUP		8003		0157	10	0060	8003
3790		RAU	0000			0060	60	0000	0255
3800		NZU		UPDATE		0255	44	0759	0051
3810		STU	TEMP1		COLUMN X	0759	21	0356	0859
3820		RSL	KON1	SUB1		0859	66	0034	0339
3830	SUB1	ALO	KON1			0339	15	0034	0389
3840		STL	COLMN			0389	20	0193	0296
3850		RAL	EQUAT			0296	65	0143	0347
3860		SLT	0002			0347	35	0002	0753

3870		ALO	COLMN			0753	15	0193	0397
3880		SLT	0004			0397	35	0004	0257
3890		ALO		8002		0257	15	0160	8002
3900		RAL	0000			0160	65	0000	0355
3910		NZE		GO2		0355	45	0258	0959
3920		STD	TEMP3			0258	24	0061	0864
3930		RAU	ROW			0864	60	0243	0447
3940		SLT	0002			0447	35	0002	0853
3950		AUP	COLMN			0853	10	0193	0497
3960		SLT	0004			0497	35	0004	0357
3970		STU	TEMP2			0357	21	0062	0865
3980		AUP		8003		0865	10	0768	8003
3990		LDD	0000			0768	69	0000	0953
4000		STD	TEMP4			0953	24	0457	0260
4010		RAL		INT		0260	65	0963	1480
4020		RAL	TEMP1			0963	65	0356	0161
4030		MPY	TEMP3			0161	19	0061	0081
4040		STL	TEMP3			0081	20	0061	0964
4050		RAL	TEMP4			0964	65	0457	0261
4060		SLO	TEMP3			0261	16	0061	0965
4070		STL	TEMP4			0965	20	0457	0360
4080		03	0000			0360	03	0000	1065
4090		RAL	TEMP2			1065	65	0062	0967
4100		ALO	INST1			0967	15	0770	0775
4110		LDD	TEMP4	8002		0775	69	0457	8002
4120	INST1	STD	0000	GO2		0770	24	0000	0959
4130	GO2	RAL	COLMN			0959	65	0193	0547
4140		SLO	KON30		COLUMNS	0547	16	0250	0455
4150		NZE		UPDATE		0455	45	0358	0051
4160		ALO	8001	SUB1		0358	15	8001	0339
4170	UPDATE	RAL	ROW			0051	65	0243	0597
4180		SLO	KON11		ROW	0597	16	0450	0555
4190		NZE		CHECK		0555	45	0458	1059
4200		ALO	8001	SUB		0458	15	8001	0659
4210	CHECK	RAL	EQUAT			1059	65	0143	0647
4220		SLO	KON11		ROW	0647	16	0450	0655
4230		NZE		CHANG		0655	45	0558	1159
4240		ALO	8001	BEGIN		0558	15	8001	0031
4250	KON1	00	0000	0001		0034	00	0000	0001
4260	KON11	00	0000	0011	NO OF ROWS	0450	00	0000	0011
4270	KON30	00	0000	0030	NO OF COLS	0250	00	0000	0030
4280	CHANG	RAL	FL1			1159	65	0059	1063
4290		LDD		FIX		1063	69	0966	1400

4300	RAL	FL2		0966	65	0069	0973
4310	LDD		FIX	0973	69	0876	1400
4320	RAL	FL3		0876	65	0079	0133
4330	LDD		FIX	0133	69	0136	1400
4340	RAL	FL4		0136	65	0039	0293
4350	LDD		FIX	0293	69	0346	1400
4360	RAL	FL5		0346	65	0049	1053
4370	LDD		FIX	1053	69	0456	1400
4380	RAL	FL6		0456	65	0159	1163
4390	LDD		FIX	1163	69	1066	1400
4400	RAL	FL7		1066	65	0769	1073
4410	LDD		FIX	1073	69	0976	1400
4420	RAL	FL8		0976	65	0779	0183
4430	LDD		FIX	0183	69	0186	1400
4440	RAL	FL9		0186	65	0089	0343
4450	LDD		FIX	0343	69	0396	1400
4460	RAL	FL10		0396	65	0099	1153
4470	LDD		FIX	1153	69	0556	1400
4480	RAL	FL11		0556	65	0259	1613
4490	LDD		FIX	1613	69	1166	1400
4500	NOP	0000	EXIT	1166	00	0000	0053
4510	SR1	STD	EXIT1	0550	24	1603	0656
4520	STL	ALPHA		0656	20	0361	1064
4530	RAU	L		1064	60	1067	0071
4540	MPY	8001		0071	19	8001	0045
4550	ALO	8002		0045	15	8002	1653
4560	AUP	ALPHA		1653	10	0361	1165
4570	AUP	B		1165	10	0868	1173
4580	MPY	8003		1173	19	8003	0697
4590	SUP	8002		0697	11	8002	0755
4600	RAL	8003		0755	65	8003	1663
4610	AUP	ALPHA		1663	10	0361	1615
4620	MPY	8001		1615	19	8001	0439
4630	SUP	8002		0439	11	8002	0747
4640	STU	TEMP2		0747	21	0062	1665
4650	RAU	24		1665	60	0968	1623
4660	MPY	L		1623	19	1067	0037
4670	RAU	8002		0037	60	8002	0095
4680	MPY	11		0095	19	0048	1069
4690	SRD	0002		1069	31	0002	0077
4700	STL	TEMP3		0077	20	0061	1164
4710	RAU	ALPHA		1164	60	0361	1715
4720	AUP	8001		1715	10	8001	0771

4730		AUP	B		0771	10	0868	1673
4740		MPY	P		1673	19	1076	0797
4750		RAU	8002		0797	60	8002	0855
4760		MPY	TEMP2	6	0855	19	0062	0233
4770		SLT	0004		0233	35	0004	0041
4780		DVR	TEMP3	EXIT1	0041	64	0061	1603
4790	LIVE	STD	EXIT		0650	24	0053	0756
4800		STL	X		0756	20	0461	1614
4810		STU	XX		1614	21	1068	0871
4820		RAL	L		0871	65	1067	0971
4830		SLO	X		0971	16	0461	1765
4840		SLO	D		1765	16	1168	1723
4850		BMI		T015	1723	46	1176	0777
4860		RAL	8003	T015	1176	65	8003	0777
4870	T015	STL	A		0777	20	0131	0084
4880		AUP	XX		0084	10	1068	1773
4890		AUP	FIFTY		1773	10	1626	0181
4900		LDD	SWICH		0181	69	0134	0087
4910		BD1	T016		0087	91	0040	0042
4920		AUP	2HUN	T016	0042	10	0145	0040
4930	T016	AUP		8003	0040	10	0393	8003
4940		STL	0100	1850	0393	20	0100	1850
4950	1850	LDD	SWICH		1850	69	0134	0137
4960		BD1		1851	0137	91	0090	1851
4970		AUP	2ONE	8003	0090	10	0443	8003
4980	1851	RAL	X		1851	65	0461	1815
4990		SLO	D		1815	16	1168	1823
5010		BMI	T017	T018	1823	46	0074	1171
5030	T017	RAL	8003	T018	0074	65	8003	1171
5040	T018	SLO	L		1171	16	1067	1086
5041		BMI		TOA	1086	46	1140	1190
5042		ALO	8001	TOB	1140	15	8001	0748
5043	TOA	RAL	L	TOB	1190	65	1067	0748
5044	TOB	STL	C		0748	20	0975	0078
5050		RSL	8002		0078	66	8002	0187
5060		ALO	L		0187	15	1067	1621
5070		SLO	A		1621	16	0131	0035
5080		STL	B		0035	20	0868	0774
5100		AUP	XX		0774	10	1068	1923
5110		AUP	FIFTY		1923	10	1626	0231
5120		LDD	SWICH		0231	69	0134	0237
5130		BD1	T019		0237	91	0140	0092
5140		AUP	2HUN	T019	0092	10	0145	0140

5150	T019	AUP		8003	0140	10	0493	8003
5160		STL	0200	1852	0493	20	0200	1852
5170	1852	LDD	SWICH		1852	69	0134	0287
5180		BD1		1853	0287	91	0190	1853
5190		AUP	20NE	8003	0190	10	0443	8003
5200	1853	RAU	8002		1853	60	8002	0561
5210		LDD	SWICH		0561	69	0134	0337
5220		BD1		T020	0337	91	0240	0142
5230		MPY	WHEEL	T021	0240	19	0543	1713
5240	T020	MPY	FWHEE	T021	0142	19	0195	1713
5250	T021	SRD	0002		1713	31	0002	1721
5260		STL	P		1721	20	1076	1671
5261		NZE		1857	1671	45	0879	1857
5270		RAL	C		0879	65	0975	0979
5280		LDD		SR1	0979	69	0032	0550
5290		RSL	8002		0032	66	8002	0091
5300		STL	TEMP2		0091	20	0062	1915
5310		RAL	XX		1915	65	1068	0874
5320		ALO		8002	0874	15	0877	8002
5330		RAL	0500		0877	65	0500	0955
5340		ALO	TEMP2		0955	15	0062	1167
5350		STL	TEMP3		1167	20	0061	1664
5360		RAL	XX		1664	65	1068	0974
5370		ALO	INS01		0974	15	0977	0281
5380		LDD	TEMP3	8002	0281	69	0061	8002
5390	INS01	STD	0500	1854	0977	24	0500	1854
5400	1854	LDD	SWICH		1854	69	0134	0387
5410		BD1		1855	0387	91	0290	1855
5420		ALO	20NE		0290	15	0443	0847
5430		LDD	TEMP2	8002	0847	69	0062	8002
5440	1855	RAL	A		1855	65	0131	0085
5450		LDD		SR1	0085	69	0038	0550
5460		AUP	XX		0038	10	1068	1074
5470		AUP		8003	1074	10	1077	8003
5480		ALO	0600		1077	15	0600	1055
5490		RAL	8002		1055	65	8002	1763
5500		AUP	XX		1763	10	1068	1174
5510		AUP		8003	1174	10	1177	8003
5520		STL	0600	1856	1177	20	0600	1856
5530	1856	LDD	SWICH		1856	69	0134	0437
5540		BD1		1857	0437	91	0340	1857
5550		AUP	20NE	8003	0340	10	0443	8003
5560	1857	RAU	A		1857	60	0131	0135

5570		AUP	8001		0135	10	8001	0141
5580		AUP	B		0141	10	0868	1624
5590		MPY	P		1624	19	1076	0897
5600		DVR	2		0897	64	0750	1169
5620		STL	MOM		1169	20	1674	1627
5630		RAL	L		1627	65	1067	1771
5640		SLO	X		1771	16	0461	1616
5650		SLO	D		1616	16	1168	1724
5660		BMI		T022	1724	46	1677	0778
5670		ALO	L	T023	1677	15	1067	1821
5680	T022	RAL	L	T023	0778	65	1067	1821
5690	T023	BMI		TOC	1821	46	0761	0661
5691		RAL	8003	TOC	0761	65	8003	0661
5692	TOC	STL	A		0661	20	0131	0184
5700		RAL	X		0184	65	0461	1666
5710		SLO	D		1666	16	1168	1774
5720		SLO	L		1774	16	1067	1921
5730		BMI		T024	1921	46	1824	1075
5740		RAL	8003	T024	1824	65	8003	1075
5750	T024	SLO	L		1075	16	1067	1071
5751		BMI		TOD	1071	46	0875	0852
5752		ALO	8001	TOE	0875	15	8001	0752
5753	TOD	RAL	8001	TOE	0852	65	8001	0752
5754	TOE	STL	C		0752	20	0975	0878
5760		RSL	8002		0878	66	8002	0487
5770		ALO	L		0487	15	1067	0772
5780		SLO	A		0772	16	0131	0185
5790		STL	B		0185	20	0868	0872
5800		NZE		BOTT	0872	45	1676	1727
5810		RAU	8002		1676	60	8002	0235
5820		LDD	SWICH		0235	69	0134	0537
5830		BD1		T025	0537	91	0390	0192
5840		MPY	WHEEL	T026	0390	19	0543	1813
5850	T025	MPY	FWHEE	T026	0192	19	0195	1813
5860	T026	SRD	0002		1813	31	0002	0972
5870		LDD	P		0972	69	1076	1079
5880		STD	P1		1079	24	0082	0285
5890		STL	P		0285	20	1076	1179
5900		RAL	C		1179	65	0975	1629
5910		LDD		SR1	1629	69	0132	0550
5920		AUP	XX		0132	10	1068	1874
5930		AUP		8003	1874	10	1777	8003
5940		ALO	0200		1777	15	0200	1155

5950		RAL	8002		1155	65	8002	1913
5960		AUP	XX		1913	10	1068	1924
5970		AUP		8003	1924	10	0978	8003
5980		STL	0200	1858	0978	20	0200	1858
5990	1858	LDD	SWICH		1858	69	0134	0587
6000		BD1		1859	0587	91	0440	1859
6010		AUP	ZONE	8003	0440	10	0443	8003
6020	1859	RAL	A		1859	65	0131	0335
6030		LDD		SR1	0335	69	0088	0550
6040		AUP	XX		0088	10	1068	1175
6050		AUP		8003	1175	10	1078	8003
6060		ALO	0300		1078	15	0300	1605
6070		RAL	8002		1605	65	8002	1714
6080		AUP	XX		1714	10	1068	1625
6090		AUP		8003	1625	10	1178	8003
6100		STL	0300	1860	1178	20	0300	1860
6110	1860	LDD	SWICH		1860	69	0134	0637
6120		BD1		1861	0637	91	0490	1861
6130		AUP	ZONE	8003	0490	10	0443	8003
6140	1861	RSU	C		1861	61	0975	1679
6150		SUP	8001		1679	11	8001	0385
6160		SUP	B		0385	11	0868	1675
6170		MPY	P		1675	19	1076	0947
6180		DVR	2		0947	64	0750	1619
6200		ALO	MOM		1619	15	1674	1729
6210		STL	MOM	BOTT	1729	20	1674	1727
6220	BOTT	RAL	XX		1727	65	1068	1725
6230		ALO		8002	1725	15	1628	8002
6240		RAL	0650		1628	65	0650	1655
6250		ALO	MOM		1655	15	1674	1779
6260		STL	TEMP2		1779	20	0062	1716
6270		RAL	XX		1716	65	1068	1775
6280		ALO	INS05		1775	15	1678	0283
6290		LDD	TEMP2	8002	0283	69	0062	8002
6300	INS05	STD	0650	1868	1678	24	0650	1868
6310	1868	LDD	SWICH		1868	69	0134	0687
6320		BD1		1869	0687	91	0540	1869
6330		ALO	ZONE		0540	15	0443	0997
6340		LDD	TEMP2	8002	0997	69	0062	8002
6350	1869	RAL	P		1869	65	1076	0331
6360		ALO	P1		0331	15	0082	0737
6370		AUP	XX		0737	10	1068	1825
6380		AUP		8003	1825	10	1728	8003

6390		ALO	0550	
6400		RAL	8002	
6410		AUP	XX	
6420		AUP		8003
6430		STL	0550	1870
6440	1870	LDD	SWICH	
6450		BD1		1871
6460		AUP	2ONE	8003
6470	1871	RAU	7	
6480		MPY	L	
6490		RAU	8002	
6500		MPY	MOM	4
6510		DVR	24	
6520		SLT	0005	
6530		DVR	I1	
6540		STL	S1	
6550		RAU	8002	
6560		MPY	8	
6570		DVR	7	
6580		STL	S2	
6590		RAU	P	
6600		AUP	P1	
6610		MPY	TEMP4	
6620		STL	S3	
6630		SLO	S2	
6640		STL	TEMP2	
6650		RAL	XX	
6660		ALO		8002
6670		RAL	1100	
6680		ALO	TEMP2	
6690		STL	TEMP2	
6700		RAL	XX	
6710		ALO	INS02	
6720		LDD	TEMP2	8002
6730	INS02	STD	1100	1862
6740	1862	LDD	SWICH	
6750		BD1		1863
6760		ALO	2ONE	
6770		LDD	TEMP2	8002
6780	1863	RAL	XX	
6790		ALO		8002
6800		RAL	1000	
6810		SLO	S3	

1728	15	0550	1705
1705	65	8002	1764
1764	10	1068	1875
1875	10	1778	8003
1778	20	0550	1870
1870	69	0134	0787
0787	91	0590	1871
0590	10	0443	8003
1871	60	1925	0080
0080	19	1067	0837
0837	60	8002	0245
0245	19	1674	0295
0295	64	0968	0780
0780	35	0005	0593
0593	64	0048	1609
1609	20	1814	1617
1617	60	8002	1726
1726	19	0880	0151
0151	64	1925	0435
0435	20	0489	0242
0242	60	1076	0381
0381	10	0082	0887
0887	19	0457	0980
0980	20	0485	0138
0138	16	0489	0643
0643	20	0062	1766
1766	65	1068	1776
1776	15	1080	8002
1080	65	1100	1755
1755	15	0062	1667
1667	20	0062	1816
1816	65	1068	1826
1826	15	1180	0535
0535	69	0062	8002
1180	24	1100	1862
1862	69	0134	0937
0937	91	0640	1863
0640	15	0443	1047
1047	69	0062	8002
1863	65	1068	1876
1876	15	1630	8002
1630	65	1000	1805
1805	16	0485	0539

6820		ALO	S1		0539	15	1814	1669
6830		STL	TEMP2		1669	20	0062	1916
6840		RAL	XX		1916	65	1068	1926
6850		ALO	INS03		1926	15	1680	0585
6860		LDD	TEMP2	8002	0585	69	0062	8002
6870	INS03	STD	1000	1864	1680	24	1000	1864
6880	1864	LDD	SWICH		1864	69	0134	0987
6890		BD1		1865	0987	91	0690	1865
6900		ALO	ZONE		0690	15	0443	1097
6910		LDD	TEMP2	8002	1097	69	0062	8002
6920	1865	RAL	XX		1865	65	1068	1730
6930		ALO		8002	1730	15	0333	8002
6940		RAL	0800		0333	65	0800	0856
6950		ALO	S3		0856	15	0485	0589
6960		ALO	S1		0589	15	1814	1719
6970		STL	TEMP2		1719	20	0062	1717
6980		RAL	XX		1717	65	1068	1780
6990		ALO	INS04		1780	15	0383	1037
7000		LDD	TEMP2	8002	1037	69	0062	8002
7010	INS04	STD	0800	1866	0383	24	0800	1866
7020	1866	LDD	SWICH		1866	69	0134	1087
7030		BD1		1867	1087	91	0740	1867
7040		ALO	ZONE		0740	15	0443	1147
7050		LDD	TEMP2	8002	1147	69	0062	8002
7060	1867	RAL	XX		1867	65	1068	0431
7070		ALO		8002	0431	15	0234	8002
7080		RAL	0700		0234	65	0700	0956
7090		ALO	S3		0956	15	0485	0639
7100		ALO	S2		0639	15	0489	0693
7110		STL	TEMP2		0693	20	0062	1767
7120		RAL	XX		1767	65	1068	0481
7130		ALO	INS06		0481	15	0284	0689
7140		LDD	TEMP2	8002	0689	69	0062	8002
7150	INS06	STD	0700	1872	0284	24	0700	1872
7160	1872	LDD	SWICH		1872	69	0134	1137
7170		BD1		1873	1137	91	0790	1873
7180		ALO	ZONE		0790	15	0443	1197
7190		LDD	TEMP2	8002	1197	69	0062	8002
7200	1873	NOP	0000	EXIT	1873	00	0000	0053
7210	START	RAL	4		0050	65	1703	0557
7220		ALO	1983		0557	15	1983	1187
7230		SLT	0003		1187	35	0003	0345
7240		DVR	12		0345	64	0098	1659

7250	SRD	0001
7260	ALO	1982
7270	STL	H
7280	RAL	10MIL
7290	SLT	0001
7300	DVR	H
7310	SRD	0001
7320	STL	0211
7330	STD	0711
7340	RSL	8002
7350	STL	0311
7360	STD	0511
7370	STD	0611
7380	STD	0811
7390	STD	1011
7400	STD	1111
7410	RAL	1980
7420	ALO	1981
7430	SLT	0003
7440	DVR	24
7450	SRD	0001
7460	ALO	1979
7470	STL	L
7480	RAU	1983
7490	MPY	8001
7500	RAU	8002
7510	MPY	1983
7520	SLT	0008
7530	DVR	1728
7540	SRD	0001
7550	STL	I1
7560	RAU	1980
7570	MPY	8001
7580	RAU	8002
7590	MPY	1980
7600	SLT	0008
7610	DVR	1728
7620	SRD	0001
7630	STL	I2
7640	RAU	1981
7650	MPY	8001
7660	RAU	8002
7670	MPY	1981

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5

IX100

5

IX100

1659	31	0001	1817
1817	15	1982	1637
1637	20	0191	0044
0044	65	1647	0251
0251	35	0001	0657
0657	64	0191	0351
0351	31	0001	0757
0757	20	0211	1914
1914	24	0711	1917
1917	66	8002	0531
0531	20	0311	1618
1618	24	0511	1668
1668	24	0611	1718
1718	24	0811	1768
1768	24	1011	1818
1818	24	1111	1918
1918	65	1980	0635
0635	15	1981	0685
0685	35	0003	0743
0743	64	0968	0581
0581	31	0001	1687
1687	15	1979	0433
0433	20	1067	0870
0870	60	1983	1737
1737	19	8001	0861
0861	60	8002	1769
1769	19	1983	1753
1753	35	0008	1819
1819	64	1072	0483
0483	31	0001	0739
0739	20	0048	0451
0451	60	1980	0735
0735	19	8001	1709
1709	60	8002	1919
1919	19	1980	0551
0551	35	0008	0970
0970	64	1072	0533
0533	31	0001	0789
0789	20	0793	0446
0446	60	1981	0785
0785	19	8001	1759
1759	60	8002	1070
1070	19	1981	0651

7680	SLT	0008			0651	35	0008	1170
7690	DVR	1728			1170	64	1072	0583
7700	SRD	0001			0583	31	0001	0839
7710	STL	I3	5	IX100	0839	20	0843	0496
7720	RAU	H	H		0496	60	0191	0395
7730	DVR	I2	3I2		0395	64	0793	1803
7740	DVR	3			1803	64	1056	1620
7750	SRD	0002			1620	31	0002	0631
7760	STL	TEMP1			0631	20	0356	1809
7770	DVR	2			1809	64	0750	0961
7780	STL	0606			0961	20	0606	1909
7790	STD	1101			1909	24	1101	0054
7800	RSL	8002			0054	66	8002	1670
7810	STL	0210			1670	20	0210	1720
7820	STD	0705			1720	24	0705	0658
7830	RAU	L	L		0658	60	1067	1172
7840	DVR	I1	3I1		1172	64	0048	0460
7850	DVR	3			0460	64	1056	1770
7860	SRD	0002			1770	31	0002	0681
7870	STL	0302			0681	20	0302	1156
7880	STD	0504			1156	24	0504	0857
7890	STD	0807			0857	24	0807	0560
7900	STD	1009			0560	24	1009	0162
7910	ALO	TEMP1			0162	15	0356	1061
7920	STL	0201			1061	20	0201	0154
7930	STD	0706			0154	24	0706	0660
7940	RSL	8002			0660	66	8002	1820
7950	STL	0605			1820	20	0605	0758
7960	STD	1110			0758	24	1110	1920
7970	RSL	8002			1920	66	8002	0731
7980	SLO	TEMP1			0731	16	0356	1161
7990	DVR	2			1161	64	0750	1611
8000	STL	0202			1611	20	0202	1606
8010	STD	0301			1606	24	0301	0254
8020	STD	0505			0254	24	0505	0858
8030	STD	0707			0858	24	0707	0760
8040	STD	0806			0760	24	0806	0860
8050	STD	1010			0860	24	1010	1622
8060	RSL	8002			1622	66	8002	0781
8070	STL	0604			0781	20	0604	0957
8080	STD	1109			0957	24	1109	0262
8090	RSU	H			0262	61	0191	0445
8100	DVR	I3			0445	64	0843	0354

8110	DVR	3
8120	SRD	0002
8130	STL	0303
8140	STD	0503
8150	STD	0808
8160	STD	1008
8170	RSL	8002
8180	DVR	2
8190	STL	0308
8200	STD	0508
8210	STD	0803
8220	STD	1003
8230	RAL	1980
8240	SLT	0002
8250	DVR	12
8260	RAU	8002
8270	AUP	L
8280	AUP	8001
8290	STU	2LW1
8300	MPY	1984
8310	RAU	8002
8320	MPY	DIRT
8330	SRD	0002
8340	STL	EARTH
8350	RAU	2LW1
8360	MPY	1983
8370	DVR	12
8380	RAU	8002
8390	MPY	CONC
8400	SRD	0002
8410	ALO	EARTH
8420	STL	EARTH
8430	RAU	1980
8440	AUP	8001
8450	AUP	1981
8460	MPY	1982
8470	RAU	8002
8480	MPY	CONC
8490	DVR	12
8500	SRD	0002
8510	ALO	EARTH
8520	STL	PRESS
8530	RAU	L

2L PLUS W1

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0354	64	1056	1672
1672	31	0002	0831
0831	20	0303	1656
1656	24	0503	1706
1706	24	0808	1661
1661	24	1008	1711
1711	66	8002	1722
1722	64	0750	1761
1761	20	0308	1811
1811	24	0508	1911
1911	24	0803	1756
1756	24	1003	1806
1806	65	1980	0835
0835	35	0002	0241
0241	64	0098	0960
0960	60	8002	1772
1772	10	1067	1822
1822	10	8001	0881
0881	21	0236	0889
0889	19	1984	1906
1906	60	8002	1922
1922	19	0931	0751
0751	31	0002	1060
1060	20	0981	0334
0334	60	0236	0291
0291	19	1983	0454
0454	64	0098	1160
1160	60	8002	1031
1031	19	0384	1057
1057	31	0002	1081
1081	15	0981	0885
0885	20	0981	0434
0434	60	1980	0935
0935	10	8001	0341
0341	10	1981	0985
0985	19	1982	0554
0554	60	8002	1131
1131	19	0384	1157
1157	64	0098	1610
1610	31	0002	1181
1181	15	0981	1035
1035	20	0939	0292
0292	60	1067	1631

8540		MPY	8001	4	1631	19	8001	1607
8550		SLT	0006	10	1607	35	0006	1681
8560		DVR	I1	5	1681	64	0048	1660
8570		DVR	24		1660	64	0968	1731
8580		DVR	2		1731	64	0750	0362
8590		RAU	8002	5	0362	60	8002	1781
8600		STD	TEMP4		1781	24	0457	1710
8610		MPY	EARTH		1710	19	0981	0851
8620		STL	0200		0851	20	0200	0654
8630		STD	0300		0654	24	0300	0754
8640		STD	0600		0754	24	0600	0854
8650		RSL	8002		0854	66	8002	0182
8660		STL	0500		0182	20	0500	0954
8670		RAU	TEMP4		0954	60	0457	0462
8680		MPY	PRESS		0462	19	0939	1760
8690		STL	0700		1760	20	0700	1054
8700		STD	0800		1054	24	0800	1154
8710		STD	1100		1154	24	1100	1604
8720		RSL	8002		1604	66	8002	0232
8730		STL	1000		0232	20	1000	1654
8740		RAL	1981		1654	65	1981	1085
8750		SLT	0002		1085	35	0002	0391
8760		DVR	12		0391	64	0098	1810
8770		ALO	1979		1810	15	1979	0633
8780		ALO	8001		0633	15	8001	0989
8790		SRD	0002		0989	31	0002	1697
8800		SLO	1984		1697	16	1984	1039
8810		STL	LLCON		1039	20	0893	0546
8820		BMI	T01		0546	46	0149	0850
8830		RAU	1984		0850	60	1984	1089
8840		AUP	2	T02	1089	10	0750	1657
8850	T01	RAU	1984	T02	0149	60	1984	1657
8860	T02	MPY	SIDE	1	1657	19	1910	0282
8870		RAU	8002		0282	60	8002	0441
8880		MPY	H	3	0441	19	0191	0562
8890		SRD	0003		0562	31	0003	0332
8900		STL	FORCE		0332	20	1787	0840
8910		RAU	H	2	0840	60	0191	0495
8920		MPY	8001	4	0495	19	8001	0382
8930		SLT	0006	10	0382	35	0006	1747
8940		DVR	I2	5	1747	64	0793	1704
8950		DVR	24	5	1704	64	0968	0432
8960		STL	TEMP1		0432	20	0356	0662

8970	RAU	H	2	0662	60	0191	0545
8980	MPY	8001	4	0545	19	8001	0482
8990	RAU	8002		0482	60	8002	0491
9000	MPY	SIDE	5	0491	19	1910	0532
9010	DVR	15	5	0532	64	1135	0595
9020	STL	TEMP2		0595	20	0062	0582
9030	RAU	8002		0582	60	8002	0541
9040	MPY	7		0541	19	1925	0645
9050	STL	TEMP3		0645	20	0061	0632
9060	RAL	FORCE		0632	65	1787	0591
9070	SLT	0005		0591	35	0005	0762
9090	ALO	TEMP3	5	0762	15	0061	0682
9100	RAU	8002	5	0682	60	8002	0641
9110	MPY	TEMP1		0641	19	0356	0732
9120	SRD	0005		0732	31	0005	1797
9130	STL	0212		1797	20	0212	0782
9140	STD	0612		0782	24	0612	0832
9150	RAU	8		0832	60	0880	1185
9160	MPY	TEMP2		1185	19	0062	0683
9170	STL	TEMP3		0683	20	0061	0882
9180	RAL	FORCE		0882	65	1787	0691
9190	SLT	0005		0691	35	0005	0862
9210	ALO	TEMP3		0862	15	0061	0932
9220	RAU	8002		0932	60	8002	0741
9230	MPY	TEMP1		0741	19	0356	0982
9240	SRD	0005		0982	31	0005	1847
9250	STL	0712		1847	20	0712	1032
9260	STD	1112		1032	24	1112	1082
9270	RAL	LLCON		1082	65	0893	1897
9280	BMI	NOLL		1897	46	0950	0951
9290	RAL	1978		0951	65	1978	0733
9300	SLT	0001		0733	35	0001	1139
9310	RAL	8003		1139	65	8003	1947
9320	STD	TEMP1		1947	24	0356	0962
9330	SLO	5		0962	16	1132	1837
9340	BMI	T03		1837	46	0890	0791
9350	RAL	4	T04	0791	65	1703	1707
9360	RAL	14	T04	0890	65	0943	1707
9370	SLT	0002		1707	35	0002	1182
9380	STL	Y		1182	20	1635	0188
9390	RAL	TEMP1		0188	65	0356	1062
9400	SLT	0004		1062	35	0004	1632
9410	ALO		8002	1632	15	1685	8002

BYPAS L LD

9420		LDD	1900		1685	69	1900	1757
9430		STD	WHEEL		1757	24	0543	0596
9440		RAL	3		0596	65	1056	1162
9450		SLO	1984		1162	16	1984	1189
9460		BMI	T05		1189	46	0342	0993
9470		RAU	8002		0993	60	8002	1051
9480		MPY	WHEEL		1051	19	0543	1682
9490		SRD	0001		1682	31	0001	1639
9500		ALO	8001		1639	15	8001	0695
9510		STL	WHEEL	T05	0695	20	0543	0342
9520	T05	RAL	1984		0342	65	1984	1689
9530		SLO	2		1689	16	0750	1807
9540		BMI		T08	1807	46	1612	1662
9550		LDD	25		1612	69	1732	1735
9560		STD	D		1735	24	1168	1782
9570		RAU	1979		1782	60	1979	0783
9580		MPY	175		0783	19	0286	1907
9590		SRD	0003		1907	31	0003	0833
9600		ALO	320		0833	15	0336	0841
9610		STL	TEMP5		0841	20	0952	1712
9620		RAL	WHEEL		1712	65	0543	0148
9630		SLT	0003		0148	35	0003	0958
9640		DVR	TEMP5		0958	64	0952	0883
9650		SRD	0001		0883	31	0001	1739
9660		STL	WHEEL	T09	1739	20	0543	0646
9670	T08	RAU	875		1662	60	0933	1887
9680		MPY	1984		1887	19	1984	1058
9690		SRD	0001		1058	31	0001	0983
9700		STL	D		0983	20	1168	1133
9750		RAL	1984		1133	65	1984	1762
9760		SLO	3		1762	16	1056	1812
9770		BMI	2FOOT		1812	46	1183	1633
9780		SLO	1		1633	16	0386	0941
9790		BMI	3FOOT	4FOOT	0941	46	0094	0745
9800	2FOOT	RAL	WHEEL		1183	65	0543	0198
9810		SLT	0003		0198	35	0003	1033
9811		DVR	D		1033	64	1168	0891
9812		DVR	2		0891	64	0750	1083
9813		SRD	0001		1083	31	0001	1683
9820		STL	WHEEL	T09	1683	20	0543	0646
9830	3FOOT	RAL	4		0094	65	1703	1158
9831		SLT	0002		1158	35	0002	1136
9832		ALO	D		1136	15	1168	1733

9840		ALO	8001	
9850		STL	TEMP2	
9860		RAL	WHEEL	
9870		ALO	8001	
9871		SLT	0003	
9880		DVR	TEMP2	
9881		SRD	0001	
9890		STL	WHEEL	T09
9900	4FOOT	RAL	4	
9910		ALO	12	
9920		SLT	0002	
9921		ALO	D	
9922		ALO	8001	
9930		STL	TEMP2	
9940		RAU	4	
9950		MPY	WHEEL	
9951		SLT	0003	
9960		DVR	TEMP2	
9961		SRD	0001	
9970		STL	WHEEL	T09
9980	T09	RAL	WHEEL	
9990		SLT	0002	
10000		DVR	2	
10010		DVR	D	
10020		STL	WHEEL	
10030		RAL	TEMP1	
10040		DIV	2	
10050		NZU		T010
10060		RAL	WHEEL	T011
10070	T010	RAL	WHEEL	
10080		DVR	4	T011
10090	T011	STL	FWHEE	
10100		LDD	8	
10110		STD	SWICH	
10120		RAL	1980	
10130		ALO	1983	
10140		ALO	8001	
10150		SLT	0002	
10160		SLO	CLEAR	
10170		SLO	8001	
10180		DVR	24	
10190		ALO	8001	
10200		AUP	13	

1733	15	8001	1608
1608	20	0062	1783
1783	65	0543	0248
0248	15	8001	1186
1186	35	0003	1658
1658	64	0062	1636
1636	31	0001	0484
0484	20	0543	0646
0745	65	1703	0534
0534	15	0098	1708
1708	35	0002	0542
0542	15	1168	0592
0592	15	8001	1758
1758	20	0062	0584
0584	60	1703	1808
1808	19	0543	0642
0642	35	0003	0634
0634	64	0062	0692
0692	31	0001	0684
0684	20	0543	0646
0646	65	0543	0298
0298	35	0002	1908
1908	64	0750	1912
1912	64	1168	0734
0734	20	0543	0696
0696	65	0356	0784
0784	14	0750	0834
0834	44	1937	0238
1937	65	0543	0348
0238	65	0543	0398
0398	64	1703	0348
0348	20	0195	0448
0448	69	0880	0884
0884	24	0134	0288
0288	65	1980	1785
1785	15	1983	0338
0338	15	8001	0795
0795	35	0002	1151
1151	16	0934	1789
1789	16	8001	0845
0845	64	0968	0984
0984	15	8001	0991
0991	10	0144	0199

10210		LDD		LIVE	0199	69	0052	0650
10220		LDD	9		0052	69	1034	0388
10230		STD	SWICH		0388	24	0134	0438
10240		RAL	Y		0438	65	1635	1839
10250		ALO	X		1839	15	0461	1084
10260		AUP	XX		1084	10	1068	1134
10270		AUP	ONE		1134	10	0488	1043
10280		LDD		LIVE	1043	69	0746	0650
10290		RAU	5		0746	60	1132	0538
10300		MPY	L		0538	19	1067	0588
10310		SRD	0002		0588	31	0002	0498
10320		STL	TEMP1	5L	0498	20	0356	1184
10330		RAU	35		1184	60	0638	1093
10340		MPY	L		1093	19	1067	0688
10350		SRD	0002		0688	31	0002	0548
10360		AUP	XX	T012	0548	10	1068	1634
10370	T012	AUP	ONE		1634	10	0488	1143
10380		LDD	8		1143	69	0880	1684
10390		STD	SWICH		1684	24	0134	0738
10400		LDD		LIVE	0738	69	1041	0650
10410		RAL	Y		1041	65	1635	1889
10420		ALO	X		1889	15	0461	1734
10430		AUP	XX		1734	10	1068	1784
10440		AUP	ONE		1784	10	0488	1193
10450		LDD	9		1193	69	1034	0788
10460		STD	SWICH		0788	24	0134	0838
10470		LDD		LIVE	0838	69	1091	0650
10480		RAU	XX		1091	60	1068	0436
10490		SUP	28		0436	11	1939	1643
10500		NZE		T013	1643	45	0796	0598
10510		AUP	8001		0796	10	8001	0486
10520		ALO	X		0486	15	0461	0536
10530		SLO	Y		0536	16	1635	0940
10540		ALO	TEMP1	T012	0940	15	0356	1634
10550	T013	RSL	1981		0598	66	1981	0586
10560		SLO	1983		0586	16	1983	0888
10570		SLO	8001		0888	16	8001	0895
10580		SLT	0002		0895	35	0002	1601
10590		ALO	CLEAR		1601	15	0934	0990
10600		ALO	8001		0990	15	8001	0648
10610		DVR	24		0648	64	0968	0636
10620		SLO	8001		0636	16	8001	1693
10630		ALO	L		1693	15	1067	0686

10640		AUP	XX		0686	10	1068	0736
10650		AUP	ONE		0736	10	0488	1743
10660		LDD	8		1743	69	0880	0786
10670		STD	SWICH		0786	24	0134	0938
10680		LDD		LIVE	0938	69	1141	0650
10690		RAL	X		1141	65	0461	0836
10700		ALO	Y		0836	15	1635	1040
10710		AUP	XX		1040	10	1068	0886
10720		LDD	9		0886	69	1034	0988
10730		STD	SWICH		0988	24	0134	1038
10740		LDD		LIVE	1038	69	1191	0650
10750		RAL	X		1191	65	0461	0936
10760		SLO	Y		0936	16	1635	1090
10770		SLO	8001		1090	16	8001	0698
10780		BMI	SOLVE		0698	46	1651	0152
10790		AUP	XX		0152	10	1068	0986
10800		AUP	ONE		0986	10	0488	1793
10810		LDD	SOLVE	LIVE	1793	69	1651	0650
10811	NOLL	STU	WHEEL		0950	21	0543	0492
10812		STD	FWHEE	SOLVE	0492	24	0195	1651
10820	SOLVE	LDD	SHEAR	MATRX	1651	69	1036	0150
10830	SHEAR	NOP	0000	1988	1036	00	0000	1988
10840	1	00	0000	0001	0386	00	0000	0001
10850	2	00	0000	0002	0750	00	0000	0002
10860	3	00	0000	0003	1056	00	0000	0003
10870	4	00	0000	0004	1703	00	0000	0004
10880	5	00	0000	0005	1132	00	0000	0005
10890	6	00	0000	0006	1050	00	0000	0006
10900	7	00	0000	0007	1925	00	0000	0007
10910	8	00	0000	0008	0880	00	0000	0008
10920	9	00	0000	0009	1034	00	0000	0009
10930	12	00	0000	0012	0098	00	0000	0012
10940	14	00	0000	0014	0943	00	0000	0014
10950	15	00	0000	0015	1135	00	0000	0015
10960	24	00	0000	0024	0968	00	0000	0024
10970	25	00	0000	0025	1732	00	0000	0025
10980	35	00	0000	0035	0638	00	0000	0035
10990	50	00	0000	0050	1150	00	0000	0050
11000	58	00	0000	0058	1600	00	0000	0058
11010	65	00	0000	0065	1650	00	0000	0065
11020	75	00	0000	0075	1700	00	0000	0075
11030	175	00	0000	0175	0286	00	0000	0175
11040	1HUN	00	0000	0100	1750	00	0000	0100

11050	TWO	00	0000	0200		1800	00	0000	0200
11060	320	00	0000	0320		0336	00	0000	0320
11070	875	00	0000	0875		0933	00	0000	0875
11080	1728	00	0000	1728		1072	00	0000	1728
11090	ONE	00	0001	0000		0488	00	0001	0000
11100	ZONE	00	0001	0001		0443	00	0001	0001
11110	13	00	0013	0000		0144	00	0013	0000
11120	28	00	0028	0000		1939	00	0028	0000
11130	30	00	0030	0000		1900	00	0030	0000
11140	FIFTY	00	0050	0000		1626	00	0050	0000
11150	2HUN	00	0200	0000		0145	00	0200	0000
11160	10MIL	00	1000	0000		1647	00	1000	0000
11170	5BILL	50	0000	0000		1950	50	0000	0000
11180	DIRT	00	0000	0100	PER CU FT	0931	00	0000	0100
11190	CONC	00	0000	0150	PER CU FT	0384	00	0000	0150
11200	SIDE	00	0000	0287	PER FT DEP	1910	00	0000	0287
11210	CLEAR	00	0000	0206	CLEARANCE	0934	00	0000	0206
11220	SHSTR	00	0000	0932	90 J B	1701	00	0000	0932
11230	BOND	00	0000	0302	350 J	1751	00	0000	0302
11240	K	00	0000	0248	FC K J OV2	1801	00	0000	0248
11250	KSIDE	00	0000	0197		0252	00	0000	0197
11260	FSJ	00	0001	7260		0352	00	0001	7260
11270	FSJS	00	0001	7500		0452	00	0001	7500
11280	1901	00	0001	2000	H15-S12	1901	00	0001	2000
11290	1902	00	0001	2000	H15	1902	00	0001	2000
11300	1903	00	0001	6000	H20-S16	1903	00	0001	6000
11310	1904	00	0001	6000	H20	1904	00	0001	6000
11320	1905	00	0001	2000	MILITARY	1905	00	0001	2000
11340	0101	00	0010	0000		0101	00	0010	0000
11350	0103	00	0010	0000		0103	00	0010	0000
11360	0105	00	0010	0000		0105	00	0010	0000
11370	0106	00	0010	0000		0106	00	0010	0000
11380	0108	00	0010	0000		0108	00	0010	0000
11390	0110	00	0010	0000		0110	00	0010	0000
11400	0402	00	0010	0000		0402	00	0010	0000
11410	0403	00	0010	0000		0403	00	0010	0000
11420	0404	00	0010	0000		0404	00	0010	0000
11430	0907	00	0010	0000		0907	00	0010	0000
11440	0908	00	0010	0000		0908	00	0010	0000
11450	0909	00	0010	0000		0909	00	0010	0000

SYMBOL TABLE 32022

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
1	0386	CONSTANT
10MIL	1647	CONSTANT
12	0098	CONSTANT
13	0144	CONSTANT
14	0943	CONSTANT
15	1135	CONSTANT
1728	1072	CONSTANT
175	0286	CONSTANT
1HUN	1750	CONSTANT
2	0750	CONSTANT
24	0968	CONSTANT
25	1732	CONSTANT
28	1939	CONSTANT
2FOOT	1183	TRANSFER CONTROL
2HUN	0145	CONSTANT
2LW1	0236	Out to Out Length of Culvert
2ONE	0443	CONSTANT
3	1056	CONSTANT
30	1900	CONSTANT
320	0336	CONSTANT
35	0638	CONSTANT
3FOOT	0094	TRANSFER CONTROL
4	1703	CONSTANT
4FOOT	0745	TRANSFER CONTROL
5	1132	CONSTANT
50	1150	CONSTANT
58	1600	CONSTANT
5BILL	1950	CONSTANT
6	1050	CONSTANT
65	1650	CONSTANT
7	1925	CONSTANT
75	1700	CONSTANT
8	0880	CONSTANT
875	0933	CONSTANT
9	1034	CONSTANT
A	0131	Distance from center to Load
ALPHA	0361	Storage for A or C in sub routine SR1
B	0868	Length of Load
BEGIN	0031	TRANSFER CONTROL
BOND	1751	Bond stress times j
BOTT	1727	Start of bottom section of Live Load sub routine
C	0975	Distance from Load to end of culvert

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
CHANG	1159	Start of Routine to change Matrix from floating point numbers to fixed point numbers
CHECK	1059	Check to determine if matrix is solved
CLEAR	0934	Distance to ϕ of steel from below
COLMN	0193	Number of columns in matrix
CONC	0384	Weight of Concrete per cubic foot
D	1168	Depth to ϕ of steel
DIRT	0931	Weight of earth per cubic foot
DIVID	0189	Start of divide loop in matrix routine
EARTH	0981	Total weight of earth and top slab
EQUAT	0143	Matrix equation being worked on
EXIT	0053	Storage for exit instructions in sub routines
EXIT1	1603	Storage for exit instructions in sub routines
FIFTY	1626	CONSTANT
FIX	1400	Start of SIR routine to fix numbers
FL1	0059	Floating and Fixing Constant
FL10	0099	Floating and Fixing Constant
FL11	0259	Floating and Fixing Constant
FL2	0069	Floating and Fixing Constant
FL3	0079	Floating and Fixing Constant
FL4	0039	Floating and Fixing Constant
FL5	0049	Floating and Fixing Constant
FL6	0159	Floating and Fixing Constant
FL7	0769	Floating and Fixing Constant
FL8	0779	Floating and Fixing Constant
FL9	0089	Floating and Fixing Constant
FLOAT	1429	Start of SIR Routine to Float numbers
FORCE	1787	Rectangular section of side load
FSJ	0352	Allowable steel stress times j for top and bottom slab
FSJS	0452	Allowable steel stress times j for walls
FWHEE	0195	Front wheel load per foot
GO1	0559	TRANSFER CONTROL
GO2	0959	TRANSFER CONTROL
H	0191	Working Height
I1	0048	I of slab
I2	0793	I of outer wall
I3	0843	I of inner wall
INS01	0977	Storage for Instructions
INS02	1180	Storage for Instructions
INS03	1680	Storage for Instructions
INS04	0383	Storage for Instructions
INS05	1678	Storage for Instructions

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
INS06	0284	Storage for Instructions
INST1	0770	Storage for Instructions
INST2	0070	Storage for Instructions
INT	1480	Start of SIR
K	1801	Factor to divide moment by in order to get d
KON1	0034	Matrix Constants
KON11	0450	Matrix Constants
KON30	0250	Matrix Constants
KSIDE	0252	K factor for walls
L	1067	Working Length
LIVE	0650	Start of Live Load sub routine
LLCON	0893	Live Load Control: - for No L.L., + for L.L.
MATRX	0150	Start of Matrix solution routine
MOM	1674	Moment of total live load about ϕ of culvert
NOLL	0950	Transfer to if no live load
ONE	0488	CONSTANT
P	1076	Wheel Load
P1	0082	Wheel Load
PRESS	0939	Total dead load on bottom
ROW	0243	ROW being worked on in matrix routine
S1	1814	Bottom shear factors to be stored in matrix
S2	0489	Bottom shear factors to be stored in matrix
S3	0485	Bottom shear factors to be stored in matrix
SHEAR	1036	Finish 1st half of program NOP to Load Routine
SHSTR	1701	Allowable shear stress times j times b
SIDE	1910	Side Earth pressure per foot of depth
SOLVE	1651	NOP to matrix sub routine
SR1	0550	Sub routine for equation in live load sub routine
START	0050	Starting point of program
SUB	0659	Control for Matrix
SUB1	0339	Control for Matrix
SWICH	0134	Storage for 8 or 9
TEMP1	0356	Temporary Storage
TEMP2	0062	Temporary Storage
TEMP3	0061	Temporary Storage
TEMP4	0457	Temporary Storage
T01	0149	TRANSFER CONTROL

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
TO10	0238	TRANSFER CONTROL
TO11	0348	TRANSFER CONTROL
TO12	1634	TRANSFER CONTROL
TO13	0598	TRANSFER CONTROL
TO15	0777	TRANSFER CONTROL
TO16	0040	TRANSFER CONTROL
TO17	0074	TRANSFER CONTROL
TO18	1171	TRANSFER CONTROL
TO19	0140	TRANSFER CONTROL
TO2	1657	TRANSFER CONTROL
TO20	0142	TRANSFER CONTROL
TO21	1713	TRANSFER CONTROL
TO22	0778	TRANSFER CONTROL
TO23	1821	TRANSFER CONTROL
TO24	1075	TRANSFER CONTROL
TO25	0192	TRANSFER CONTROL
TO26	1813	TRANSFER CONTROL
TO3	0890	TRANSFER CONTROL
TO4	1707	TRANSFER CONTROL
TO5	0342	TRANSFER CONTROL
TO8	1662	TRANSFER CONTROL
TO9	0646	TRANSFER CONTROL
TWO	1800	CONSTANT
UDATE	0051	Control for matrix
WHEEL	0543	Total Rear Wheel
X	0461	Distance to working point
XX	1068	Live load column
Y	1635	Distance between wheels

0000	000000	0450	0500	0000000000	0950	1000	0000000000	1450	1500	0000000000	1950
0001	000000 *	0451	0501	0000000000	0951	1001	0000000000	1451	1501	0000000000	1951
0002	000000-0 *	0452	0502	0101000000	0952	1002	0101000000	1452	1502	0011111000	1952
0003	000000*0	0453	0503	0000000000	0953	1003	0000000000	1453	1503	0000000000	1953
0004	000000*0	0454	0504	0000000000	0954	1004	0000000000	1454	1504	0000011000	1954
0005	000000*0	0455	0505	0000000000	0955	1005	0000000000	1455	1505	0000000000	1955
0006	000000000	0456	0506	0000000000	0956	1006	0000000000	1456	1506	0000000000	1956
0007	000000 0	0457	0507	0000000000	0957	1007	0000000000	1457	1507	0000000000	1957
0008	000000*0	0458	0508	0000000000	0958	1008	0000000000	1458	1508	0000000000	1958
0009	000000 0	0459	0509	0000000000	0959	1009	0000000000	1459	1509	0000000000	1959
0010	000000 0	0460	0510	0000000000	0960	1010	0000000000	1460	1510	0000000000	1960
0011	000000000	0461	0511	0000000000	0961	1011	0000000000	1461	1511	0000000000	1961
0012	000000000	0462	0512	0000000000	0962	1012	0000000000	1462	1512	0000000000	1962
0013	000000*0	0463	0513	0000000000	0963	1013	0000000000	1463	1513	0000000000	1963
0014	000000000	0464	0514	0000000000	0964	1014	0000000000	1464	1514	0000000000	1964
0015	000000000	0465	0515	0000000000	0965	1015	0000000000	1465	1515	0000000000	1965
0016	000000000	0466	0516	0000000000	0966	1016	0000000000	1466	1516	0000000000	1966
0017	000000*0	0467	0517	0000000000	0967	1017	0000000000	1467	1517	0000000000	1967
0018	000000000	0468	0518	0000000000	0968	1018	0000000000	1468	1518	0000000000	1968
0019	000000000	0469	0519	0000000000	0969	1019	0000000000	1469	1519	0000000000	1969
0020	000000*0	0470	0520	0000000000	0970	1020	0000000000	1470	1520	0000000000	1970
0021	000000000	0471	0521	0000000000	0971	1021	0000000000	1471	1521	0000000000	1971
0022	000000000	0472	0522	0000000000	0972	1022	0000000000	1472	1522	0000000000	1972
0023	000000000	0473	0523	0000000000	0973	1023	0000000000	1473	1523	0000000000	1973
0024	000000000	0474	0524	0000000000	0974	1024	0000000000	1474	1524	0000000000	1974
0025	000000000	0475	0525	0000000000	0975	1025	0000000000	1475	1525	0000000000	1975
0026	000000*0	0476	0526	0000000000	0976	1026	0000000000	1476	1526	0000000000	1976
0027	000000000	0477	0527	0000000000	0977	1027	0000000000	1477	1527	0000000000	1977
0028	000000*0	0478	0528	0000000000	0978	1028	0000000000	1478	1528	0000000000	1978
0029	000000000	0479	0529	0000000000	0979	1029	0000000000	1479	1529	0000000000	1979
0030	000000*0	0480	0530	0000000000	0980	1030	0000000000	1480	1530	0000000000	1980
0031	000000000	0481	0531	0000000000	0981	1031	0000000000	1481	1531	0000000000	1981
0032	000000000	0482	0532	0000000000	0982	1032	0000000000	1482	1532	0000000000	1982
0033	000000000	0483	0533	0000000000	0983	1033	0000000000	1483	1533	0000000000	1983
0034	000000000	0484	0534	0000000000	0984	1034	0000000000	1484	1534	0000000000	1984
0035	000000000	0485	0535	0000000000	0985	1035	0000000000	1485	1535	0000000000	1985
0036	000000000 *	0486	0536	0000000000	0986	1036	0000000000	1486	1536	0001110000	1986
0037	000000000	0487	0537	0000000000	0987	1037	0000000000	1487	1537	0000000000	1987
0038	000000000 *	0488	0538	0000000000	0988	1038	0111000000	1488	1538	0011111110	1988
0039	000000000	0489	0539	0000000000	0989	1039	0000000000	1489	1539	0000000000	1989
0040	000000000	0490	0540	0000000000	0990	1040	0000000000	1490	1540	0011111110	1990
0041	000000000	0491	0541	0000000000	0991	1041	0000000000	1491	1541	0011111110	1991
0042	00000000110	0492	0542	0000111111	0992	1042	1111000000	1492	1542	0011111110	1992

0043	00000000 *	0493	0543	0000000000	0993	1043	0000000000	1493	1543	0000001110	1993
0044	0001111111	0494	0544	1111111111	0994	1044	1111000000	1494	1544	0011111110	1994
0045	00000000 *	0495	0545	0000000011	0995	1045	1111000000	1495	1545	0011111110	1995
0046	0000000000	0496	0546	0000001111	0996	1046	1111000000	1496	1546	0011111110	1996
0047	00000000 *	0497	0547	0000000000	0997	1047	0000000000	1497	1547	0000000000	1997
0048	00000000 0	0498	0548	0000011111	0998	1048	1111000000	1498	1548	0011111110	1998
0049	0000111111	0499	0549	1111111111	0999	1049	1111000000	1499	1549	0011111110	1999

1	TWIN BOX CULVERT 2ND HALF		
10	BLR	0100	0130
20	BLR	0163	0180
30	BLR	0200	0230
40	BLR	0263	0280
50	BLR	0300	0330
60	BLR	0363	0380
70	BLR	0400	0430
80	BLR	0463	0480
90	BLR	0500	0530
100	BLR	0563	0580
110	BLR	0600	0630
120	BLR	0663	0680
130	BLR	0700	0730
140	BLR	0800	0830
150	BLR	0900	0930
160	BLR	1000	1030
170	BLR	1100	1130
180	BLR	1850	1873
190	BLR	1901	1905
200	BLR	1961	1999
210	REG	R1951	1960
220	REG	X1827	1836
230	REG	Y1877	1886
240	REG	Z1927	1936
250	BLA	0101	0111
260	BLA	0201	0211
270	BLA	0301	0311
280	BLA	0401	0411
290	BLA	0501	0511
300	BLA	0601	0611
310	BLA	0701	0711
320	BLA	0801	0811
330	BLA	0901	0911
340	BLA	1001	1011
350	BLA	1101	1111
360	SYN	SHEAR	0050
370	SYN	12	0098
371	SYN	2LW1	0236
380	SYN	BOTT	1727
390	SYN	KSIDE	0252
400	SYN	13	0144
410	SYN	ZONE	0443

420	SYN	EXIT	0053
430	SYN	5BILL	1950
440	SYN	FIFTY	1626
450	SYN	14	0943
460	SYN	24	0968
470	SYN	ONE	0488
480	SYN	EXIT1	1603
490	SYN	LLCON	0893
500	SYN	TEMP2	0062
510	SYN	15	1135
520	SYN	MOM	1674
530	SYN	25	1732
540	SYN	SIDE	1910
550	SYN	35	0638
560	SYN	DIRT	0931
570	SYN	EARTH	0981
580	SYN	TEMP3	0061
590	SYN	FWHEE	0195
600	SYN	FORCE	1787
610	SYN	65	1650
620	SYN	CLEAR	0934
630	SYN	75	1700
640	SYN	TWO	1800
650	SYN	1HUN	1750
660	SYN	SHSTR	1701
670	SYN	2HUN	0145
680	SYN	XX	1068
690	SYN	TEMP4	0457
700	SYN	A	0131
710	SYN	B	0868
720	SYN	C	0975
730	SYN	D	1168
740	SYN	H	0191
750	SYN	WHEEL	0543
760	SYN	1728	1072
770	SYN	K	1801
780	SYN	L	1067
790	SYN	28	1939
800	SYN	58	1600
810	SYN	FSJS	0452
820	SYN	P	1076
830	SYN	PRESS	0939
840	SYN	ALPHA	0361

850	SYN	875	0933
860	SYN	I1	0048
870	SYN	X	0461
880	SYN	P1	0082
890	SYN	Y	1635
900	SYN	I2	0793
910	SYN	1	0386
920	SYN	2	0750
930	SYN	3	1056
940	SYN	SWICH	0134
950	SYN	30	1900
960	SYN	4	1703
970	SYN	CONC	0384
980	SYN	BOND	1751
990	SYN	5	1132
1000	SYN	FSJ	0352
1010	SYN	6	1050
1020	SYN	7	1925
1030	SYN	50	1150
1040	SYN	8	0880
1050	SYN	9	1034
1060	SYN	10MIL	1647
1070	SYN	I3	0843
1080	SHEAR	RAL	EARTH
1090		SLT	0003
1100		DVR	2LW1
1110		SRD	0001
1120		STL	EARTH
1130		RAL	PRESS
1140		SLT	0003
1150		DVR	2LW1
1160		SRD	0001
1170		STL	PRESS
1180		RAL	1980
1190		ALO	1983
1200		ALO	8001
1210		SLT	0002
1220		DVR	2
1230		SLO	CLEAR
1240		DVR	12
1250		STL	TEMP4
1260		LDD	1HUN
1270		STD	PCNT

0050	65	0981	0035
0035	35	0003	0043
0043	64	0236	0007
0007	31	0001	0013
0013	20	0981	0034
0034	65	0939	0093
0093	35	0003	0001
0001	64	0236	0057
0057	31	0001	0063
0063	20	0939	0042
0042	65	1980	0085
0085	15	1983	0037
0037	15	8001	0143
0143	35	0002	0049
0049	64	0750	0011
0011	16	0934	0039
0039	64	0098	0009
0009	20	0457	0010
0010	69	1750	0003
0003	24	0006	0059

1280		LDD		TOPSH		0059	69	0012	0015
1290		LDD	SUMP			0012	69	0065	0018
1300		STD	Z0007			0018	24	1933	0036
1310		RSL	1981			0036	66	1981	0135
1320		SLO	1983			0135	16	1983	0087
1330		SLO	8001			0087	16	8001	0193
1340		SLT	0002			0193	35	0002	0099
1350		DVR	2			0099	64	0750	0111
1360		ALO	CLEAR			0111	15	0934	0089
1370		DVR	12			0089	64	0098	0109
1380		ALO	L			0109	15	1067	0021
1390		LDD	25			0021	69	1732	0185
1400		STD	PCNT			0185	24	0006	0159
1410		LDD		TOPSH		0159	69	0162	0015
1420		LDD	SUMP			0162	69	0065	0068
1430		STD	Z0006	SHBOT		0068	24	1932	0235
1460	TOPSH	STD	EXIT			0015	24	0053	0056
1470		STL	X			0056	20	0461	0014
1480		STU	SUMP			0014	21	0065	0768
1490		RAL	13	T027		0768	65	0144	0149
1500	T027	STL	XX			0149	20	1068	0071
1510		RAL	XX			0071	65	1068	0023
1520		ALO		8002		0023	15	0026	8002
1530		LDD	0500			0026	69	0500	0103
1540		STD	TEMP1		MCD	0103	24	0106	0209
1550		RAL	XX			0209	65	1068	0073
1560		ALO		8002		0073	15	0076	8002
1570		LDD	0400			0076	69	0400	0153
1580		STD	TEMP2		MBC	0153	24	0062	0765
1590		RAU	0412			0765	60	0412	0017
1600		SUP	0512			0017	11	0512	0067
1610		MPY	PCNT			0067	19	0006	0027
1620		SRD	0002			0027	31	0002	0285
1630		ALO	0400			0285	15	0400	0005
1640		SLO	0500			0005	16	0500	0055
1650		ALO	TEMP2			0055	15	0062	0767
1660		SLO	TEMP1			0767	16	0106	0161
1670		DVR	L			0161	64	1067	0077
1680		SRD	0001			0077	31	0001	0033
1690		STL	TEMP1		2	0033	20	0106	0259
1700		RAU	L			0259	60	1067	0771
1710		SUP	X			0771	11	0461	0865
1720		SUP	8001			0865	11	8001	0871

1730	MPY	EARTH			0871	19	0981	0051
1740	DVR	2			0051	64	0750	0211
1750	ALO	TEMP1		2	0211	15	0106	0261
1760	STL	TEMP1		SHEAR	0261	20	0106	0309
1770	RAL	XX			0309	65	1068	0773
1780	ALO		8002		0773	15	0776	8002
1790	LDD	0150			0776	69	0150	0203
1800	STD	A			0203	24	0131	0084
1810	RAL	XX			0084	65	1068	0873
1820	ALO		8002		0873	15	0876	8002
1830	RAU	0250			0876	60	0250	0105
1840	STD	B			0105	24	0868	0971
1850	AUP	A			0971	10	0131	0335
1860	AUP	8001		2	0335	10	8001	0041
1870	MPY	B		4	0041	19	0868	0139
1880	RAU	8002			0139	60	8002	0047
1890	MPY	WHEEL		4	0047	19	0543	0763
1900	DVR	2			0763	64	0750	0311
1910	DVR	L		2	0311	64	1067	0777
1920	ALO	TEMP1		2	0777	15	0106	0411
1930	STL	TEMP1		SHEAR	0411	20	0106	0359
1940	RSL	L			0359	66	1067	1071
1950	ALO	A			1071	15	0131	0385
1960	ALO	B			0385	15	0868	0973
1970	ALO	X			0973	15	0461	0965
1980	BMI	TO28			0965	46	1218	0019
1990	RSU	8002			0019	61	8002	0877
2000	MPY	WHEEL			0877	19	0543	0863
2010	ALO	TEMP1		2	0863	15	0106	0511
2020	STL	TEMP1		SHEAR	0511	20	0106	0409
2030	RAU	X			0409	60	0461	1065
2040	SUP	L			1065	11	1067	1171
2050	AUP	A			1171	10	0131	0435
2060	BMI	TO28			0435	46	1218	0189
2070	MPY	WHEEL			0189	19	0543	0963
2080	ALO	TEMP1		2	0963	15	0106	0561
2090	STL	TEMP1	TO28	SHEAR	0561	20	0106	1218
2100	RAL	XX			1218	65	1068	1073
2110	ALO		8002		1073	15	0976	8002
2120	LDD	0350			0976	69	0350	0253
2130	STD	A			0253	24	0131	0184
2140	RAL	XX			0184	65	1068	1173
2150	ALO		8002		1173	15	1176	8002

TO28

2160		RAU	0450			1176	60	0450	0155
2170		STD	B			0155	24	0868	1221
2180		AUP	A			1221	10	0131	0485
2190		AUP	8001		2	0485	10	8001	0091
2200		MPY	B		4	0091	19	0868	0239
2210		RAU	8002			0239	60	8002	0097
2220		MPY	FWHEE		4	0097	19	0195	1165
2230		DVR	2			1165	64	0750	0611
2240		DVR	L			0611	64	1067	0977
2250		ALO	TEMP1		2	0977	15	0106	0661
2260		STL	TEMP1		SHEAR	0661	20	0106	0459
2270		RSL	L			0459	66	1067	1271
2280		ALO	A			1271	15	0131	0535
2290		ALO	B			0535	15	0868	1223
2300		ALO	X			1223	15	0461	1215
2310		BMI	TO29			1215	46	1268	0069
2320		RSU	8002			0069	61	8002	1077
2330		MPY	FWHEE			1077	19	0195	1265
2340		ALO	TEMP1		2	1265	15	0106	0711
2350		STL	TEMP1		SHEAR	0711	20	0106	0509
2360		RAU	X			0509	60	0461	1315
2370		SUP	L			1315	11	1067	1321
2380		AUP	A			1321	10	0131	0585
2390		BMI	TO29			0585	46	1268	0289
2400		MPY	FWHEE			0289	19	0195	1365
2410		ALO	TEMP1			1365	15	0106	0761
2420		STL	TEMP1	TO29		0761	20	0106	1268
2430	TO29	RAM	TEMP1			1268	67	0106	0811
2440		DVR	SHSTR			0811	64	1701	0861
2450		ALO	CLEAR			0861	15	0934	0339
2460		RSL	8002			0339	66	8002	0147
2470		ALO	T			0147	15	0150	0205
2480		BMI		TO30		0205	46	0008	0559
2490		SLO	8001			0008	16	8001	1415
2500		RAM	8002			1415	67	8002	1273
2510		STL	T	TO30		1273	20	0150	0559
2520	TO30	RAL	1983			0559	65	1983	0137
2530		SLT	0002			0137	35	0002	0243
2540		SLO	CLEAR			0243	16	0934	0389
2550		STL	D			0389	20	1168	1371
2560		RAM	TEMP1		2	1371	67	0106	0911
2570		SLT	0002		4	0911	35	0002	0867
2580		DVR	BOND		4	0867	64	1751	0961

2590		DVR	D	2	0961	64	1168	0029
2600		SLO	SUMP		0029	16	0065	0769
2610		BMI	TO32		0769	46	0022	1323
2620		ALO	8001		1323	15	8001	0079
2630		STL	SUMP	TO32	0079	20	0065	0022
2640	TO32	RAL	XX		0022	65	1068	1373
2650		SLO	30		1373	16	1900	0255
2660		NZE		EXIT	0255	45	0058	0053
2670		ALO	8001		0058	15	8001	1465
2680		ALO	ONE	TO27	1465	15	0488	0149
2690	SHBOT	RSL	X		0235	66	0461	0000
2691		ALO	L		0000	15	1067	1515
2700		LDD		BOTSH	1515	69	1318	1421
2710		LDD	SUMP		1318	69	0065	1368
2720		STD	Z0009		1368	24	1935	0038
2730		RSL	TEMP4		0038	66	0457	0096
2731		ALO	L		0096	15	1067	1011
2740		LDD	1HUN		1011	69	1750	0303
2750		STD	PCNT		0303	24	0006	0609
2760		LDD		BOTSH	0609	69	0262	1421
2770		LDD	SUMP		0262	69	0065	1418
2780		STD	Z0008	SLAB	1418	24	1934	0187
2790	BOTSH	STD	EXIT		1421	24	0053	0156
2800		STL	X		0156	20	0461	0064
2810		STU	SUMP		0064	21	0065	1468
2820		RAL	13	TO31	1468	65	0144	0199
2830	TO31	STL	XX		0199	20	1068	1471
2840		RAL	XX		1471	65	1068	1423
2850		ALO		8002	1423	15	1226	8002
2860		LDD	0600		1226	69	0600	0353
2870		STD	TEMP1		0353	24	0106	0659
2880		RAL	XX		0659	65	1068	1473
2890		ALO		8002	1473	15	1276	8002
2900		LDD	0700		1276	69	0700	0403
2910		STD	TEMP2		0403	24	0062	1565
2920		RAU	0712		1565	60	0712	0967
2930		SUP	0612		0967	11	0612	1167
2940		MPY	PCNT		1167	19	0006	1177
2950		SRD	0002		1177	31	0002	0635
2960		ALO	0700		0635	15	0700	0305
2970		SLO	0600		0305	16	0600	0355
2980		ALO	TEMP2		0355	15	0062	1061
2990		SLO	TEMP1		1061	16	0106	1217

3000	DVR	L			1217	64	1067	1227
3010	SRD	0001		2	1227	31	0001	0083
3020	STL	TEMP1		SHEAR	0083	20	0106	0709
3030	RAL	XX			0709	65	1068	1523
3040	ALO		8002		1523	15	1326	8002
3050	RAL	0550			1326	65	0550	0405
3060	SLT	0002			0405	35	0002	1111
3070	DVR	2LW1			1111	64	0236	0107
3080	ALO	PRESS			0107	15	0939	0293
3090	STL	TEMP2			0293	20	0062	1615
3100	RAU	L			1615	60	1067	1521
3110	SUP	X			1521	11	0461	1665
3120	SUP	8001		2	1665	11	8001	1571
3130	MPY	TEMP2			1571	19	0062	0133
3140	DVR	2			0133	64	0750	1161
3150	ALO	TEMP1		2	1161	15	0106	1211
3160	STL	TEMP1		SHEAR	1211	20	0106	0759
3170	RAL	XX			0759	65	1068	1573
3180	ALO		8002		1573	15	1376	8002
3190	LDD	0650			1376	69	0650	0453
3200	STD	TEMP2			0453	24	0062	1715
3210	RAU	X		2	1715	60	0461	1621
3220	MPY	8001		4	1621	19	8001	1277
3230	ALO	8002		4	1277	15	8002	1765
3240	ALO	8001		4	1765	15	8001	0439
3250	SLT	0005		9	0439	35	0005	0197
3260	DVR	L		7	0197	64	1067	0503
3270	DVR	8001		5	0503	64	8001	0148
3271	SRD	0001		4	0148	31	0001	0809
3280	RSU	8002			0809	61	8002	1063
3290	AUP	ONE			1063	10	0488	1327
3300	MPY	TEMP2		6	1327	19	0062	1377
3310	DVR	L		4	1377	64	1067	0685
3320	DVR	4		4	0685	64	1703	0183
3340	SRD	0002			0183	31	0002	0141
3350	ALO	TEMP1			0141	15	0106	1261
3360	STL	TEMP1			1261	20	0106	0859
3370	RAM	8002			0859	67	8002	1267
3380	DVR	SHSTR			1267	64	1701	1311
3390	ALO	CLEAR			1311	15	0934	0489
3400	RSL	8002			0489	66	8002	0247
3410	ALO	T			0247	15	0150	0505
3420	BMI		T033		0505	46	0108	0909

3430		SLO	8001		0108	16	8001	1815
3440		RAM	8002		1815	67	8002	1623
3450		STL	T	T033	1623	20	0150	0909
3460	T033	RAM	TEMP1		0909	67	0106	1361
3470		SLT	0002		1361	35	0002	1317
3480		DVR	BOND		1317	64	1751	1411
3490		DVR	D		1411	64	1168	0779
3500		SLO	SUMP		0779	16	0065	0869
3510		BMI	T034		0869	46	0072	1673
3520		ALO	8001		1673	15	8001	0879
3530		STL	SUMP	T034	0879	20	0065	0072
3540	T034	RAL	XX		0072	65	1068	1723
3550		SLO	30		1723	16	1900	0555
3560		NZE		EXIT	0555	45	0158	0053
3570		ALO	8001		0158	15	8001	1915
3580		ALO	ONE	T031	1915	15	0488	0199
3590	SQRT	NZE		8001	0250	45	0004	8001
3600		STD	EXIT1		0004	24	1603	0206
3610		STL	TEMP2		0206	20	0062	0016
3620		RAL	5BILL		0016	65	1950	0605
3630		AUP	8001		0605	10	8001	1461
3640		MPY	TEMP2		1461	19	0062	0233
3650		RAL	8003	T038	0233	65	8003	0241
3660	T038	AUP	TEMP2		0241	10	0062	1367
3670		SLO	8002		1367	16	8002	0025
3680		DVR	8001		0025	64	8001	0539
3690		SLO	8001		0539	16	8001	0045
3700		BMI		T039	0045	46	0198	0249
3710		ALO	8001		0198	15	8001	0655
3720		ALO	8001		0655	15	8001	1511
3730		AUP	50		1511	10	1150	0705
3740		SRT	0001		0705	30	0001	1561
3750		SLO	8002		1561	16	8002	0969
3760		MPY	8001	T038	0969	19	8001	0241
3770	T039	ALO	8001	EXIT1	0249	15	8001	1603
3780	SLABM	STD	EXIT		0350	24	0053	0256
3790		STL	X		0256	20	0461	0764
3800		STU	STEEL		0764	21	1518	1671
3810		RAL	13	T035	1671	65	0144	0299
3820	T035	STL	XX		0299	20	1068	1721
3830		RAU	EARTH		1721	60	0981	0735
3840		MPY	L		0735	19	1067	0237
3850		DVR	2		0237	64	0750	1611

3860	STL	TEMP1			1611	20	0106	0959
3870	RAL	XX			0959	65	1068	1773
3880	ALO		8002		1773	15	1426	8002
3890	LDD	0250			1426	69	0250	0553
3900	STD	B			0553	24	0868	1771
3910	RAL	XX			1771	65	1068	1823
3920	ALO		8002		1823	15	1476	8002
3930	RSU	0150			1476	61	0150	0755
3940	STD	A			0755	24	0131	0234
3950	AUP	L			0234	10	1067	0455
3951	SUP	B			0455	11	0868	1821
3960	STU	C			1821	21	0975	0028
3970	AUP	8003			0028	10	8003	0785
3980	AUP	B		2	0785	10	0868	1923
3990	MPY	8001		4	1923	19	8001	0297
4000	RAU	8002			0297	60	8002	0805
4010	MPY	WHEEL		4	0805	19	0543	1163
4020	DVR	2		4	1163	64	0750	1661
4030	DVR	L		2	1661	64	1067	1069
4040	ALO	TEMP1			1069	15	0106	1711
4050	STL	TEMP1			1711	20	0106	1009
4060	RAL	XX			1009	65	1068	0024
4070	ALO		8002		0024	15	1427	8002
4080	LDD	0450			1427	69	0450	0603
4090	STD	BB			0603	24	0306	1059
4100	RAL	XX			1059	65	1068	0074
4110	ALO		8002		0074	15	1477	8002
4120	RSU	0350			1477	61	0350	0855
4130	STD	AA			0855	24	0208	1761
4140	AUP	L			1761	10	1067	0502
4141	SUP	BB			0502	11	0306	1921
4150	STU	C			1921	21	0975	0078
4160	AUP	8003			0078	10	8003	0835
4170	AUP	BB			0835	10	0306	0774
4180	MPY	8001			0774	19	8001	0347
4190	RAU	8002			0347	60	8002	0905
4200	MPY	FWHEE			0905	19	0195	0066
4210	DVR	2			0066	64	0750	1811
4220	DVR	L			1811	64	1067	1169
4230	ALO	TEMP1			1169	15	0106	1911
4240	STL	TEMP1		2	1911	20	0106	1109
4250	RAL	XX			1109	65	1068	0874
4260	ALO		8002		0874	15	1527	8002

4270	RAL	0400		1527	65	0400	0955
4280	ALO	0400		0955	15	0400	1005
4290	STL	TEMP2		1005	20	0062	0766
4300	RAU	0412		0766	60	0412	1417
4310	MPY	PGNT		1417	19	0006	1577
4320	SRD	0002		1577	31	0002	0885
4330	ALO	TEMP2		0885	15	0062	1467
4340	STL	TEMP2		1467	20	0062	0866
4350	RAL	XX		0866	65	1068	0974
4360	ALO		8002	0974	15	1627	8002
4370	RAL	0500		1627	65	0500	1055
4380	ALO	0500		1055	15	0500	1105
4390	STL	TEMP3		1105	20	0061	0864
4400	RAU	0512		0864	60	0512	1517
4410	MPY	PGNT		1517	19	0006	1677
4420	SRD	0002		1677	31	0002	0935
4430	ALO	TEMP3		0935	15	0061	0966
4440	STL	TEMP3		0966	20	0061	0964
4450	RAU	TEMP1		0964	60	0106	0362
4460	MPY	X		0362	19	0461	0031
4470	SRD	0002		0031	31	0002	0589
4480	STL	TEMP1		0589	20	0106	1159
4490	RAU	L		1159	60	1067	0772
4500	SUP	X		0772	11	0461	1066
4510	MPY	TEMP2		1066	19	0062	0283
4520	DVR	L		0283	64	1067	1777
4530	SRD	0003		1777	31	0003	0287
4540	ALO	TEMP1		0287	15	0106	0462
4550	STL	TEMP1		0462	20	0106	1209
4560	RAU	X		1209	60	0461	1166
4570	MPY	TEMP3		1166	19	0061	0081
4580	DVR	L		0081	64	1067	0778
4590	SRD	0003		0778	31	0003	0639
4600	ALO	TEMP1		0639	15	0106	0562
4610	STL	TEMP1		0562	20	0106	1259
4620	RSU	X		1259	61	0461	1216
4630	MPY	8001		1216	19	8001	0689
4640	RAU	8002		0689	60	8002	0397
4650	MPY	EARTH		0397	19	0981	0101
4660	DVR	2		0101	64	0750	0662
4670	SRD	0002		0662	31	0002	0872
4680	ALO	TEMP1		0872	15	0106	0762
4690	STL	TEMP1		0762	20	0106	1309

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MOMENT ATX

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4700		RAL	X		1309	65	0461	1266
4710		SLO	A		1266	16	0131	0985
4720		BMI	T036		0985	46	0088	0739
4730		RSU	8002		0739	61	8002	0447
4740		MPY	8001		0447	19	8001	0972
4750		RAU	8002	4	0972	60	8002	0181
4760		MPY	WHEEL		0181	19	0543	1213
4770		DVR	2		1213	64	0750	0862
4780		SPD	0002		0862	31	0002	1172
4790		ALO	TEMP1		1172	15	0106	0962
4800		STL	TEMP1		0962	20	0106	1359
4810		RAU	X		1359	60	0461	1316
4820		SUP	A		1316	11	0131	1035
4830		SUP	B		1035	11	0868	1074
4840		BMI	T036		1074	46	0088	0878
4850		MPY	8003		0878	19	8003	0151
4860		RAU	8002		0151	60	8002	1409
4870		MPY	WHEEL		1409	19	0543	1263
4880		DVR	2		1263	64	0750	1062
4890		SRD	0002		1062	31	0002	1222
4900		ALO	TEMP1		1222	15	0106	1162
4910		STL	TEMP1	T036	1162	20	0106	0088
4920	T036	RAL	X		0088	65	0461	1366
4930		SLO	AA		1366	16	0208	1313
4940		BMI	T037		1313	46	1416	1567
4950		RSU	8002		1567	61	8002	0075
4960		MPY	8001		0075	19	8001	0349
4970		RAU	8002		0349	60	8002	0157
4980		MPY	FWHEE		0157	19	0195	1466
4990		DVR	2		1466	64	0750	1212
5000		SRD	0002		1212	31	0002	1272
5010		ALO	TEMP1		1272	15	0106	1262
5020		STL	TEMP1		1262	20	0106	1459
5030		RAU	X		1459	60	0461	1516
5040		SUP	AA		1516	11	0208	1363
5050		SUP	BB		1363	11	0306	1312
5060		BMI	T037		1312	46	1416	1566
5070		MPY	8003		1566	19	8003	0789
5080		RAU	8002		0789	60	8002	0497
5090		MPY	FWHEE		0497	19	0195	1616
5100		DVR	2		1616	64	0750	1362
5110		SRD	0002		1362	31	0002	1322
5120		ALO	TEMP1	T045	1322	15	0106	1412

5130	T045	LDD	SWICH		1412	69	0134	0337
5140		BD1	T042		0337	91	0040	0092
5150		BMI	T043		0092	46	0095	0146
5160		RAL	8003	T043	0146	65	8003	0095
5170	T042	BMI		T043	0040	46	0343	0095
5180		RAL	8003	T043	0343	65	8003	0095
5190	T037	RAL	TEMP1	T045	1416	65	0106	1412
5200	T043	RAM	8002		0095	67	8002	0653
5210		STL	TEMP1		0653	20	0106	1509
5220		SLT	0002		1509	35	0002	1666
5230		DVR	K		1666	64	1801	1462
5240		LDD		SQRT	1462	69	1716	0250
5250		SRD	0005		1716	31	0005	0231
5260		ALO	CLEAR		0231	15	0934	0839
5270		SLO	T		0839	16	0150	1155
5280		BMI	T040		1155	46	0258	1559
5290		ALO	8001		1559	15	8001	1766
5300		STL	T	T040	1766	20	0150	0258
5310	T040	RAU	1983		0258	60	1983	0387
5320		SLT	0002		0387	35	0002	0393
5330		SUP	CLEAR		0393	11	0934	0889
5340		MPY	FSJ		0889	19	0352	1174
5350		STL	TEMP2		1174	20	0062	1816
5360		RAU	TEMP1		1816	60	0106	1512
5370		MPY	12		1512	19	0098	1219
5380		SLT	0003		1219	35	0003	0978
5390		DVR	TEMP2		0978	64	0062	1224
5400		SRD	0001		1224	31	0001	0281
5410		SLO	STEEL		0281	16	1518	1274
5420		BMI	T041		1274	46	1078	1178
5430		ALO	8001		1178	15	8001	1085
5440		STL	STEEL	T041	1085	20	1518	1078
5450	T041	RAL	XX		1078	65	1068	1324
5460		SLO	30		1324	16	1900	1205
5470		NZE		EXIT	1205	45	0308	0053
5480		ALO	8001		0308	15	8001	1916
5490		ALO	ONE	T035	1916	15	0488	0299
5500	SLAB	LDD	9		0187	69	1034	0437
5510		STD	SWICH		0437	24	0134	0487
5520		LDD	25		0487	69	1732	1185
5530		STD	PCNT		1185	24	0006	1609
5540		RAL	1981		1609	65	1981	1235
5550		SLT	0002		1235	35	0002	0291

5560		DVR	24			0291	64	0968	0979
5570		LDD		SLABM		0979	69	0032	0350
5580		LDD	STEEL			0032	69	1518	1372
5590		STD	1831	T046	BAR A	1372	24	1831	0284
5600	T046	RAL	X			0284	65	0461	1617
5610		ALO	25			1617	15	1732	0537
5620		LDD		SLABM		0537	69	0090	0350
5630		RAL	1831			0090	65	1831	1285
5640		DVR	2			1285	64	0750	1562
5650		SLO	STEEL			1562	16	1518	1374
5660		BMI	T046			1374	46	0284	1228
5670		LDD	X			1228	69	0461	1064
5680		STD	1833	T047	DIST A2	1064	24	1833	0086
5690	T047	RAL	X			0086	65	0461	1667
5700		ALO	25			1667	15	1732	0587
5710		LDD		SLABM		0587	69	0140	0350
5720		RAL	STEEL			0140	65	1518	1424
5730		NZE	T047			1424	45	0086	1079
5740		LDD	X			1079	69	0461	1164
5750		STD	1832		DIST A1	1164	24	1832	1335
5760		LDD	8			1335	69	0880	0333
5770		STD	SWICH			0333	24	0134	0637
5780		RAU	35			0637	60	0638	0493
5790		MPY	L			0493	19	1067	0687
5800		SRD	0002	T050		0687	31	0002	0245
5810	T050	LDD		SLABM		0245	69	0248	0350
5820		RAL	1834			0248	65	1834	0989
5830		SLO	STEEL			0989	16	1518	1474
5840		BMI		T048		1474	46	1278	1328
5850		STD	1834	T048	BAR B	1278	24	1834	1328
5860	T048	RAU	65			1328	60	1650	1255
5870		MPY	L			1255	19	1067	0737
5880		SRD	0002			0737	31	0002	0295
5890		SLO	X			0295	16	0461	1717
5900		BMI	T049			1717	46	0020	1422
5910		RAL	8001			1422	65	8001	1179
5920		ALO	25	T050		1179	15	1732	0245
5930	T049	RAL	L			0020	65	1067	1472
5940		DVR	2	T052		1472	64	0750	1612
5950	T052	LDD		SLABM		1612	69	1767	0350
5960		RAL	1834			1767	65	1834	1039
5970		DVR	2			1039	64	0750	1662
5980		SLO	STEEL			1662	16	1518	1524

5990		BMI		T051		1524	46	1378	1428
6000		RAL	X			1378	65	0461	1817
6010		SLO	25	T052		1817	16	1732	1612
6020	T051	LDD	X			1428	69	0461	1214
6030		STD	1836		DIST B2	1214	24	1836	1089
6040		RAL	L			1089	65	1067	1522
6050		DVR	2	T053		1522	64	0750	1712
6060	T053	LDD		SLABM		1712	69	1917	0350
6070		RAL	1834			1917	65	1834	1139
6080		DVR	2			1139	64	0750	1762
6090		SLO	STEEL			1762	16	1518	1574
6100		BMI		T054		1574	46	1478	1528
6110		RAL	X			1478	65	0461	1568
6120		ALO	25	T053		1568	15	1732	1712
6130	T054	LDD	X			1528	69	0461	1264
6140		STD	1835		DIST B1	1264	24	1835	0138
6150		LDD	9			0138	69	1034	0787
6160		STD	SWICH			0787	24	0134	0837
6170		LDD	1HUN			0837	69	1750	0703
6180		STD	PCNT			0703	24	0006	1659
6190		RSL	1980			1659	66	1980	1385
6200		SLT	0002			1385	35	0002	0341
6210		DVR	24			0341	64	0968	1229
6220		ALO	L			1229	15	1067	1572
6230		LDD		SLABM		1572	69	0775	0350
6240		LDD	STEEL			0775	69	1518	1622
6250		STD	1878	T055	BAR C	1622	24	1878	0331
6260	T055	RAL	X			0331	65	0461	1618
6270		SLO	25			1618	16	1732	0887
6280		LDD		SLABM		0887	69	0190	0350
6290		RAL	STEEL			0190	65	1518	1624
6300		NZE	T055			1624	45	0331	1279
6310		RAL	1980			1279	65	1980	1435
6320		SLT	0002			1435	35	0002	0391
6330		DVR	24			0391	64	0968	1329
6340		ALO	L			1329	15	1067	1672
6350		SLO	X			1672	16	0461	1668
6360		STL	1879	BSLAB	DIST C1	1668	20	1879	0132
6370	BS	STD	EXIT			0450	24	0053	0356
6380		STL	X			0356	20	0461	1314
6390		STU	STEEL			1314	21	1518	1722
6400		RAL	13	T056		1722	65	0144	0399
6410	T056	STL	XX			0399	20	1068	1772

6420	ALO		8002	1772	15	0875	8002
6430	RAL	0600		0875	65	0600	1305
6440	ALO	0600		1305	15	0600	1355
6450	STL	TEMP1		1355	20	0106	1709
6460	RAU	0612		1709	60	0612	1718
6470	MPY	PCNT		1718	19	0006	1578
6480	SRD	0002		1578	31	0002	0937
6490	ALO	TEMP1		0937	15	0106	1812
6500	STL	TEMP1		1812	20	0106	1759
6510	RAL	XX		1759	65	1068	1724
6520	ALO		8002	1724	15	1628	8002
6530	RAL	0700		1628	65	0700	1405
6540	ALO	0700		1405	15	0700	1455
6550	STL	TEMP2		1455	20	0062	1768
6560	RAU	0712		1768	60	0712	1818
6570	MPY	PCNT		1818	19	0006	1678
6580	SRD	0002		1678	31	0002	0987
6590	ALO	TEMP2		0987	15	0062	1918
6600	STL	TEMP2		1918	20	0062	1269
6610	RAU	L		1269	60	1067	1822
6620	MPY	PRESS		1822	19	0939	1809
6630	DVR	2		1809	64	0750	1912
6640	STL	TEMP3		1912	20	0061	1364
6650	RAL	XX		1364	65	1068	1774
6660	ALO		8002	1774	15	1728	8002
6670	RAL	0550		1728	65	0550	1505
6680	STL	TEMP4		1505	20	0457	0060
6690	SLT	0002		0060	35	0002	1319
6700	DVR	4		1319	64	1703	1413
6710	ALO	TEMP3		1413	15	0061	1369
6720	STL	TEMP3		1369	20	0061	1414
6730	RAL	XX		1414	65	1068	1824
6740	ALO		8002	1824	15	1778	8002
6750	RAL	0650		1778	65	0650	1555
6760	STL	MOM		1555	20	1674	1379
6770	SLT	0002		1379	35	0002	1485
6780	DVR	4		1485	64	1703	1463
6790	DVR	L		1463	64	1067	1429
6800	ALO	TEMP3		1429	15	0061	1419
6810	RAU	8002		1419	60	8002	1479
6820	MPY	X		1479	19	0461	0381
6830	SRD	0002		0381	31	0002	1189
6840	STL	TEMP3		1189	20	0061	1464

MDC

MED

6850	RAU	X		1464	60	0461	1469
6860	SUP	L		1469	11	1067	1922
6870	MPY	TEMP2		1922	19	0062	0383
6880	DVR	L		0383	64	1067	1529
6890	SRD	0003		1529	31	0003	1239
6900	ALO	TEMP3		1239	15	0061	1519
6910	STL	TEMP3		1519	20	0061	1514
6920	RSU	X		1514	61	0461	1569
6930	MPY	TEMP1		1569	19	0106	1579
6940	DVR	L		1579	64	1067	1629
6950	SRD	0003		1629	31	0003	1289
6960	ALO	TEMP3		1289	15	0061	1619
6970	STL	TEMP3		1619	20	0061	1564
6980	RAL	TEMP4		1564	65	0457	1513
6990	SLT	0002		1513	35	0002	1669
7000	DVR	L		1669	64	1067	0342
7001	DVR	2		0342	64	0750	1679
7010	ALO	PRESS		1679	15	0939	0593
7020	RSU	8002		0593	61	8002	0201
7030	MPY	X		0201	19	0461	0431
7040	RAU	8002		0431	60	8002	1339
7050	MPY	X		1339	19	0461	0481
7060	DVR	2		0481	64	0750	1563
7070	SRD	0002		1563	31	0002	1874
7080	ALO	TEMP3		1874	15	0061	1719
7090	STL	TEMP3		1719	20	0061	1614
7100	RSU	MOM		1614	61	1674	1729
7110	MPY	X		1729	19	0461	0531
7120	DVR	L		0531	64	1067	1779
7130	RAU	8002		1779	60	8002	1037
7140	MPY	X		1037	19	0461	0581
7150	DVR	L		0581	64	1067	0030
7160	RAU	8002		0030	60	8002	1389
7170	MPY	X		1389	19	0461	0631
7180	DVR	L		0631	64	1067	0080
7190	DVR	4		0080	64	1703	1769
7200	ALO	TEMP3		1769	15	0061	1819
7210	LDD	SWICH		1819	69	0134	1087
7220	BD1	T057		1087	91	0240	0142
7230	BMI	T058		0142	46	0345	0196
7240	RAL	8003	T058	0196	65	8003	0345
7250	BMI		T058	0240	46	0643	0345
7260	RAL	8003	T058	0643	65	8003	0345

T057

7270	T058	RAM	8002		0345	67	8002	0753
7280		STL	TEMP3		0753	20	0061	1664
7290		SLT	0002		1664	35	0002	1924
7300		DVR	K		1924	64	1801	1613
7310		LDD		SQRT	1613	69	1919	0250
7320		SRD	0005		1919	31	0005	0433
7330		ALO	CLEAR		0433	15	0934	1439
7340		SLO	T		1439	16	0150	1605
7350		BMI	T059		1605	46	0358	1909
7360		ALO	8001		1909	15	8001	0070
7370		STL	T	T059	0070	20	0150	0358
7380	T059	RAU	1983		0358	60	1983	1137
7390		SLT	0002		1137	35	0002	0693
7400		SUP	CLEAR		0693	11	0934	1489
7410		MPY	FSJ		1489	19	0352	1075
7420		STL	TEMP2		1075	20	0062	0770
7430		RAU	TEMP3		0770	60	0061	0870
7440		MPY	12		0870	19	0098	0970
7450		SLT	0003		0970	35	0003	0780
7460		DVR	TEMP2		0780	64	0062	1175
7470		SRD	0001		1175	31	0001	0681
7480		SLO	STEEL		0681	16	1518	1225
7490		BMI	T060		1225	46	0980	1080
7500		ALO	8001		1080	15	8001	1187
7510		STL	STEEL	T060	1187	20	1518	0980
7520	T060	RAL	XX		0980	65	1068	1275
7530		SLO	30		1275	16	1900	1655
7540		NZE		EXIT	1655	45	0408	0053
7550		ALO	8001		0408	15	8001	1070
7560		ALO	ONE	T056	1070	15	0488	0399
7570	BSLAB	LDD	9		0132	69	1034	1237
7580		SID	SWICH		1237	24	0134	1287
7590		LDD	25		1287	69	1732	1535
7600		STD	PCNT		1535	24	0006	0110
7610		RAL	1981		0110	65	1981	1585
7620		SLT	0002		1585	35	0002	0441
7630		DVR	24		0441	64	0968	1180
7640		LDD		BS	1180	69	0483	0450
7650		LDD	STEEL		0483	69	1518	1325
7660		STD	1928	T061	1325	24	1928	0731
7670	T061	RAL	X		0731	65	0461	1170
7680		ALO	25		1170	15	1732	1337
7690		LDD		BS	1337	69	0290	0450

BAR J

7700		RAL	1928			0290	65	1928	0533
7710		DVR	2			0533	64	0750	1663
7720		SLO	STEEL			1663	16	1518	1375
7730		BMI	T061			1375	46	0731	1230
7740		LDD	X			1230	69	0461	1714
7750		STD	1930	T062	DIST J2	1714	24	1930	0583
7760	T062	RAL	X			0583	65	0461	1220
7770		ALO	25			1220	15	1732	1387
7780		LDD		BS		1387	69	0340	0450
7790		RAL	STEEL			0340	65	1518	1425
7800		NZE	T062			1425	45	0583	1280
7810		LDD	X			1280	69	0461	1764
7820		STD	1929		DIST J1	1764	24	1929	0182
7830		LDD	8			0182	69	0880	0633
7840		STD	SWICH			0633	24	0134	1437
7850		RAL	L			1437	65	1067	1475
7860		DVR	2	T044		1475	64	0750	1713
7870	T044	LDD		BS		1713	69	1270	0450
7880		RAL	1884			1270	65	1884	1539
7890		SLO	STEEL			1539	16	1518	1525
7900		BMI		T063		1525	46	1330	1380
7910		STD	1884	T063	BAR G	1330	24	1884	1380
7920	T063	RAU	58			1380	60	1600	1705
7930		MPY	L			1705	19	1067	1487
7940		SRD	0002			1487	31	0002	0395
7950		SLO	X			0395	16	0461	1320
7960		BMI	T064			1320	46	1575	1625
7970		RAL	X			1625	65	0461	1370
7980		ALO	25	T044		1370	15	1732	1713
7990	T064	RAL	L			1575	65	1067	1675
8000		DVR	2	T065		1675	64	0750	1763
8010	T065	LDD		BS		1763	69	1420	0450
8020		RAL	1884			1420	65	1884	1589
8030		DVR	2			1589	64	0750	1813
8040		SLO	STEEL			1813	16	1518	1725
8050		BMI		T066		1725	46	1430	1480
8060		RAL	X			1430	65	0461	1470
8070		SLO	25	T065		1470	16	1732	1763
8080	T066	LDD	X			1480	69	0461	1814
8090		STD	1886		DIST G2	1814	24	1886	1639
8100		RAL	L			1639	65	1067	1775
8110		DVR	2	T068		1775	64	0750	1913
8120	T068	LDD		BS		1913	69	1520	0450

8130		RAL	1884			1520	65	1884	1689
8140		DVR	2			1689	64	0750	1914
8150		SLO	STEEL			1914	16	1518	1825
8160		BMI		T067		1825	46	1530	1580
8170		RAL	X			1530	65	0461	1570
8180		ALO	25	T068		1570	15	1732	1913
8190	T067	LDD	X			1580	69	0461	1620
8200		STD	1885		DIST G1	1620	24	1885	0188
8210		LDD	9			0188	69	1034	1537
8220		STD	SWICH			1537	24	0134	1587
8230		LDD	1HUN			1587	69	1750	0803
8240		STD	PCNT			0803	24	0006	0160
8250		RSL	1980			0160	66	1980	1685
8260		SLT	0002			1685	35	0002	0491
8270		DVR	24			0491	64	0968	1630
8280		ALO	L			1630	15	1067	1875
8290		LDD		BS		1875	69	1680	0450
8300		LDD	STEEL			1680	69	1518	1526
8310		STD	1882	T069	BAR F	1526	24	1882	1735
8320	T069	RAL	X			1735	65	0461	1670
8330		SLO	25			1670	16	1732	1637
8340		LDD		BS		1637	69	0390	0450
8350		RAL	STEEL			0390	65	1518	1576
8360		NZE	T069			1576	45	1735	0781
8370		RAL	1980			0781	65	1980	1785
8380		SLT	0002			1785	35	0002	0541
8390		DVR	24			0541	64	0968	1730
8400		ALO	L			1730	15	1067	1676
8410		SLO	X			1676	16	0461	1720
8420		STL	1883	MSIDE	DIST F1	1720	20	1883	0136
8430	SIDEM	STD	EXIT			0550	24	0053	0406
8440		STL	X			0406	20	0461	1770
8450		STU	STEEL			1770	21	1518	1726
8460		RAL	13	T070		1726	65	0144	0449
8470	T070	STL	XX			0449	20	1068	1776
8480		ALO	ML			1776	15	1780	0186
8490		ALO		8002		0186	15	1739	8002
8500		RAL	0000			1739	65	0000	1755
8510		STL	TEMP1			1755	20	0106	0210
8520		RAL	ML			0210	65	1780	0046
8530		ALO		8002		0046	15	1789	8002
8540		RAL	0000			1789	65	0000	1805
8550		ALO	TEMP1			1805	15	0106	1820

8560	STL	TEMP1		1820	20	0106	0260
8570	RAL	ML		0260	65	1780	0286
8580	ALO		8002	0286	15	1839	8002
8590	RAU	0012		1839	60	0012	1920
8600	MPY	PCNT		1920	19	0006	0831
8610	SRD	0002		0831	31	0002	1889
8620	ALO	TEMP1		1889	15	0106	1826
8630	STL	TEMP1		1826	20	0106	0310
8640	RAL	XX		0310	65	1068	1876
8650	ALO	MR		1876	15	0881	0336
8660	ALO		8002	0336	15	0440	8002
8670	RAL	0000		0440	65	0000	0456
8680	STL	TEMP2		0456	20	0062	1926
8690	RAL	MR		1926	65	0881	0436
8700	ALO		8002	0436	15	0490	8002
8710	RAL	0000		0490	65	0000	0506
8720	ALO	TEMP2		0506	15	0062	1031
8730	STL	TEMP2		1031	20	0062	1081
8740	RAL	MR		1081	65	0881	0486
8750	ALO		8002	0486	15	0540	8002
8760	RAU	0012		0540	60	0012	1131
8770	MPY	PCNT		1131	19	0006	1181
8780	SRD	0002		1181	31	0002	0590
8790	ALO	TEMP2		0590	15	0062	1231
8800	STL	TEMP2		1231	20	0062	1281
8810	ALO	TEMP1		1281	15	0106	1331
8820	DVR	H		1331	64	0191	0251
8830	SRD	0001		0251	31	0001	0207
8840	LDD	SWICH		0207	69	0134	1687
8850	BD1	T086		1687	91	0640	0192
8860	RSL	8002	T086	0192	66	8002	0640
8870	STL	TEMP3		0640	20	0061	1381
8880	RAL	FORCE		1381	65	1787	0591
8890	SLT	0002		0591	35	0002	0547
8900	DVR	2		0547	64	0750	1431
8910	RAU	8002		1431	60	8002	0690
8920	MPY	PCNT		0690	19	0006	1481
8930	SRD	0002		1481	31	0002	0740
8940	ALO	TEMP3		0740	15	0061	1531
8950	STL	TEMP3		1531	20	0061	1581
8960	RAU	H		1581	60	0191	0445
8970	MPY	SIDE		0445	19	1910	1631
8980	DVR	6		1631	64	1050	1681

8990		RAU	8002		1681	60	8002	0790
9000		MPY	H		0790	19	0191	1731
9010		SRD	0003		1731	31	0003	0641
9020		RAU	8002		0641	60	8002	0499
9030		MPY	PCNT		0499	19	0006	1781
9040		SRD	0002		1781	31	0002	0840
9050		ALO	TEMP3		0840	15	0061	0232
9060		RAU	8002		0232	60	8002	0691
9070		MPY	X		0691	19	0461	0282
9080		SLT	0001		0282	35	0001	0890
9090		LDD	SWICH		0890	69	0134	1737
9100		BD1	T087		1737	91	0940	0242
9110		ALO	TEMP1	T088	0242	15	0106	0332
9120	T087	SLO	TEMP2	T088	0940	16	0062	0332
9130	T088	SRD	0003		0332	31	0003	0743
9140		STL	TEMP3		0743	20	0061	0382
9150		RSU	X		0382	61	0461	0432
9160		MPY	8001		0432	19	8001	0556
9170		RAU	8002		0556	60	8002	0482
9180		MPY	FORCE		0482	19	1787	0257
9190		SLT	0001		0257	35	0001	0532
9200		DVR	H		0532	64	0191	0301
9210		DVR	2		0301	64	0750	0582
9220		SRD	0001		0582	31	0001	0990
9230		RAU	8002		0990	60	8002	0549
9240		MPY	PCNT		0549	19	0006	0632
9250		SRD	0002		0632	31	0002	0741
9260		ALO	TEMP3		0741	15	0061	0682
9270		STL	TEMP3		0682	20	0061	0732
9280		RSU	X		0732	61	0461	0782
9290		MPY	8001		0782	19	8001	0606
9300		RAU	8002		0606	60	8002	0832
9310		MPY	SIDE		0832	19	1910	0882
9320		DVR	6		0882	64	1050	0932
9330		RAU	8002		0932	60	8002	0791
9340		MPY	X		0791	19	0461	0982
9350		SRD	0005		0982	31	0005	0597
9360		RAU	8002		0597	60	8002	0656
9370		MPY	PCNT		0656	19	0006	1032
9380		SRD	0002		1032	31	0002	0841
9390		ALO	TEMP3		0841	15	0061	1082
9400		LDD	SWICH		1082	69	0134	1837
9410		BD1	T071		1837	91	1040	0292

REACTION

9420		BMI	T072		0292	46	0495	0246
9430		RAL	8003	T072	0246	65	8003	0495
9440	T071	BMI		T072	1040	46	0993	0495
9450		RAL	8003	T072	0993	65	8003	0495
9460	T072	RAM	8002		0495	67	8002	0853
9470		STL	TEMP3		0853	20	0061	1182
9480		SLT	0003		1182	35	0003	0891
9490		DVR	KSIDE		0891	64	0252	1232
9500		SRD	0001		1232	31	0001	1090
9510		LDD		SQRT	1090	69	1043	0250
9520		SRD	0005		1043	31	0005	0307
9530		ALO	CLEAR		0307	15	0934	1140
9540		SLO	W1		1140	16	1093	0647
9550		BMI	T073		0647	46	0650	0351
9560		ALO	8001		0351	15	8001	0357
9570		STL	W1	T073	0357	20	1093	0650
9580	T073	RAU	1980		0650	60	1980	1887
9590		SLT	0002		1887	35	0002	1143
9600		SUP	CLEAR		1143	11	0934	1190
9610		MPY	FSJS		1190	19	0452	1282
9620		STL	TEMP1		1282	20	0106	0360
9630		RAU	TEMP3		0360	60	0061	1332
9640		MPY	12		1332	19	0098	1382
9650		SLT	0003		1382	35	0003	0941
9660		DVR	TEMP1		0941	64	0106	1432
9670		SRD	0001		1432	31	0001	1240
9680		SLO	STEEL		1240	16	1518	1482
9690		BMI	T074		1482	46	0536	0586
9700		ALO	8001		0586	15	8001	1193
9710		STL	STEEL	T074	1193	20	1518	0536
9720	T074	RAL	XX		0536	65	1068	1532
9730		SLO	30		1532	16	1900	0706
9740		NZE		EXIT	0706	45	0410	0053
9750		ALO	8001		0410	15	8001	1582
9760		ALO	ONE	T070	1582	15	0488	0449
9770	MSIDE	RAL	6		0136	65	1050	0756
9780		SLT	0006		0756	35	0006	1632
9790		STL	MR		1632	20	0881	0334
9800		RAL	5		0334	65	1132	1937
9810		SLT	0006		1937	35	0006	0401
9820		STL	ML		0401	20	1780	0683
9830		LDD	9		0683	69	1034	0238
9840		STD	SWICH		0238	24	0134	0288

9850		RAL	1983			0288	65	1983	0338
9860		SLT	0003			0338	35	0003	0697
9870		DVR	24			0697	64	0968	1682
9880		SRD	0001			1682	31	0001	1290
9890		LDD		SIDEM		1290	69	1243	0550
9900		RAL	1878			1243	65	1878	0733
9910		SLO	STEEL			0733	16	1518	1782
9920		BMI		T075		1782	46	0636	0686
9930		STD	1878	T075	BAR C	0636	24	1878	0686
9940	T075	RAL	1879		DIST C1	0686	65	1879	0783
9950		SLO	X			0783	16	0461	0833
9960		STD	TEMP4			0833	24	0457	0460
9970		LDD	25			0460	69	1732	0736
9980		STD	PCNT			0736	24	0006	0510
9990		LDD		SIDEM		0510	69	0883	0550
10000		LDD	STEEL			0883	69	1518	0983
10005		STD	1880		BAR D	0983	24	1880	1591
10006		LDD	1HUN			1591	69	1750	1303
10007		STD	PCNT			1303	24	0006	0646
10008		RAL	X			0646	65	0461	1641
10009		LDD		SIDEM		1641	69	0696	0550
10010		RAL	STEEL			0696	65	1518	0698
10011		SLO	1880			0698	16	1880	0748
10012		BMI	T098			0748	46	1033	0602
10013		ALO	8001			0602	15	8001	1460
10014		STL	1880	T098	BAR D	1460	20	1880	1033
10020	T098	RAL	H			1033	65	0191	0545
10030		SLO	TEMP4			0545	16	0457	1083
10040		LDD	1HUN			1083	69	1750	0903
10050		STD	PCNT			0903	24	0006	0560
10060		LDD		SIDEM		0560	69	1133	0550
10070		RAL	1882			1133	65	1882	0388
10080		SLO	STEEL			0388	16	1518	1183
10090		BMI		T076		1183	46	0786	0438
10100		STD	1882	T076	BAR F	0786	24	1882	0438
10110	T076	RAL	H			0438	65	0191	0595
10120		SLO	1883		DIST F1	0595	16	1883	0538
10130		ALO	TEMP4			0538	15	0457	1233
10140		ALO	17			1233	15	0836	0991
10150		LDD	25			0991	69	1732	0886
10160		STD	PCNT			0886	24	0006	0610
10170		LDD		SIDEM		0610	69	1283	0550
10180		RAL	STEEL			1283	65	1518	1333

10190		SLO	1880			1333	16	1880	0936
10200		BMI	T077			0936	46	1340	1390
10210		ALO	8001			1390	15	8001	0747
10220		STL	1880	T077	BAR D	0747	20	1880	1340
10221	T077	LDD	1HUN			1340	69	1750	1353
10222		STD	PCNT			1353	24	0006	0742
10223		RAL	X			0742	65	0461	1691
10224		LDD		SIDEM		1691	69	0844	0550
10225		RAL	STEEL			0844	65	1518	0746
10226		SLO	1880			0746	16	1880	1741
10227		BMI	T099			1741	46	0894	1395
10228		ALO	8001			1395	15	8001	1403
10229		STL	1880	T099		1403	20	1880	0894
10230	T099	RAL	1			0894	65	0386	1041
10240		SLT	0006			1041	35	0006	0806
10250		STL	MR			0806	20	0881	0434
10260		RAL	10MIL			0434	65	1647	0451
10270		STL	ML			0451	20	1780	1383
10280		LDD	8			1383	69	0880	1433
10290		STD	SWICH			1433	24	0134	0588
10300		LDD	1HUN			0588	69	1750	0953
10310		STD	PCNT			0953	24	0006	0660
10320		RAL	H			0660	65	0191	0645
10330		DVR	2	T089		0645	64	0750	1483
10340	T089	LDD		SIDEM		1483	69	0986	0550
10350		RAL	1881			0986	65	1881	1036
10360		SLO	STEEL			1036	16	1518	1533
10370		BMI		T078		1533	46	1086	0688
10380		ALO	8001			1086	15	8001	1293
10390		STL	1881	T078	BAR E	1293	20	1881	0688
10400	T078	RAU	58			0688	60	1600	0856
10410		MPY	H			0856	19	0191	1583
10420		SRD	0002			1583	31	0002	1091
10430		SLO	X			1091	16	0461	1633
10440		BMI	CTR			1633	46	1136	0738
10450		RAL	8001			0738	65	8001	0695
10460		ALO	25	T089		0695	15	1732	1483
10470	CTR	RAL	13			1136	65	0144	0599
10480		STU	MOM	T079		0599	21	1674	1683
10490	T079	STL	XX			1683	20	1068	1733
10500		RAL	XX			1733	65	1068	1783
10510		ALO		8002		1783	15	1186	8002
10520		RAL	0300			1186	65	0300	0906

10530		ALO	0300		0906	15	0300	0956
10540		ALO	0312		0956	15	0312	0484
10550		STL	TEMP1	MBE	0484	20	0106	0710
10560		RAL	XX		0710	65	1068	0534
10570		ALO		8002	0534	15	0788	8002
10580		RAL	0800		0788	65	0800	1006
10590		ALO	0800		1006	15	0800	1106
10600		ALO	0812		1106	15	0812	0584
10610		STL	TEMP2	MEB	0584	20	0062	0634
10620		RAU	H		0634	60	0191	0745
10630		SUP	TEMP4		0745	11	0457	0684
10640		MPY	TEMP1		0684	19	0106	0734
10650		DVR	H		0734	64	0191	0501
10660		SRD	0003		0501	31	0003	0784
10670		STL	TEMP3		0784	20	0061	0834
10680		RSU	TEMP4		0834	61	0457	0884
10690		MPY	TEMP2		0884	19	0062	0984
10700		DVR	H		0984	64	0191	0551
10710		SRD	0003		0551	31	0003	1084
10720		ALO	TEMP3		1084	15	0061	1134
10730		RAM	8002		1134	67	8002	1343
10740		SLO	MOM		1343	16	1674	1184
10750		BMI	T080		1184	46	0838	0888
10760		ALO	8001		0888	15	8001	0795
10770		STL	MOM	T080	0795	20	1674	0838
10780	T080	RAU	H		0838	60	0191	0845
10790		SUP	TEMP4		0845	11	0457	1234
10800		MPY	TEMP2		1234	19	0062	1284
10810		DVR	H		1284	64	0191	0601
10820		SRD	0003		0601	31	0003	1334
10830		STL	TEMP3		1334	20	0061	1384
10840		RSU	TEMP4		1384	61	0457	1434
10850		MPY	TEMP1		1434	19	0106	1484
10860		DVR	H		1484	64	0191	0651
10870		SRD	0003		0651	31	0003	1534
10880		ALO	TEMP3		1534	15	0061	1584
10890		RAM	8002		1584	67	8002	1393
10900		SLO	MOM		1393	16	1674	1634
10910		BMI	T081		1634	46	0938	0988
10920		ALO	8001		0988	15	8001	0895
10930		STL	MOM	T081	0895	20	1674	0938
10940	T081	RAL	XX		0938	65	1068	1684
10950		SLO	30		1684	16	1900	1156

10960		NZE		T082		1156	45	0760	1734
10970		ALO	8001			0760	15	8001	1784
10980		ALO	ONE	T079		1784	15	0488	1683
10990	T082	RAL	MOM			1734	65	1674	1236
11000		SLT	0003			1236	35	0003	0945
11010		DVR	KSIDE			0945	64	0252	1286
11020		SRD	0001			1286	31	0001	1443
11030		LDD		SQRT		1443	69	0296	0250
11040		SRD	0005			0296	31	0005	1336
11050		ALO	CLEAR			1336	15	0934	1440
11060		STL	W2			1440	20	0995	0298
11070		RAU	1981			0298	60	1981	0392
11071		SLT	0002			0392	35	0002	0458
11072		SUP	CLEAR			0458	11	0934	1840
11073		MPY	FSJS			1840	19	0452	0901
11074		STL	TEMP1			0901	20	0106	0442
11075		RAU	12			0442	60	0098	1053
11076		MPY	MOM			1053	19	1674	1386
11080		SLT	0003			1386	35	0003	1045
11090		DVR	TEMP1			1045	64	0106	1436
11100		SRD	0001			1436	31	0001	1493
11110		STL	1931	BARA	BAR K	1493	20	1931	0596
11120	BARA	RAL	1HUN	T095		0596	65	1750	1356
11130	T095	LDD		CUTOF		1356	69	1410	1300
11140		RAL	1831			1410	65	1831	0644
11150		DVR	2			0644	64	0750	0354
11160		SLO	STEEL			0354	16	1518	1391
11170		BMI		T094		1391	46	0694	1245
11180		RAL	X			0694	65	0461	0404
11190		ALO	25	T095		0404	15	1732	1356
11200	T094	RAL	1833			1245	65	1833	0454
11210		SLO	X			0454	16	0461	1441
11220		BMI		T096		1441	46	0744	1295
11230		STD	1833	T096	DIST A2	0744	24	1833	1295
11240	T096	RAL	X			1295	65	0461	0548
11250		ALO	25			0548	15	1732	0598
11260		SLO	L			0598	16	1067	1491
11270		BMI		T097		1491	46	0794	1345
11280		ALO	8001			0794	15	8001	0552
11290		LDD		CUTOF		0552	69	0507	1300
11300		RAL	STEEL			0507	65	1518	1541
11310		NZE	T096	T097		1541	45	1295	1345
11320	T097	LDD	X			1345	69	0461	0648

11330		STD	1832	CHECK	DIST A1	0648	24	1832	1486
11340	CUTOF	STD	EXIT			1300	24	0053	1256
11350		STL	X			1256	20	0461	0054
11360		STU	STEEL			0054	21	1518	1141
11370		RAL	13	T093		1141	65	0144	0104
11380	T093	STL	XX			0104	20	1068	0154
11390		RAU	EARTH			0154	60	0981	0094
11400		MPY	L			0094	19	1067	0346
11410		DVR	2			0346	64	0750	1350
11420		RAU	8002			1350	60	8002	0508
11430		MPY	X			0508	19	0461	0642
11440		SRD	0002			0642	31	0002	0951
11450		STL	TEMP1			0951	20	0106	1060
11460		RSU	X			1060	61	0461	1191
11470		MPY	8001			1191	19	8001	0052
11480		RAU	8002			0052	60	8002	1110
11490		MPY	EARTH			1110	19	0981	0396
11500		DVR	2			0396	64	0750	0244
11510		SRD	0002			0244	31	0002	1103
11520		ALO	TEMP1			1103	15	0106	0194
11530		STL	TEMP1			0194	20	0106	1160
11540		RAL	XX			1160	65	1068	1241
11550		ALO		8002		1241	15	0294	8002
11560		RSU	0200			0294	61	0200	1097
11570		SUP	0200			1097	11	0200	0407
11580		SUP	0212			0407	11	0212	0344
11590		STU	TEMP2		5	0344	21	0062	0394
11600		RAU	L		2	0394	60	1067	0444
11610		SUP	X		2	0444	11	0461	0494
11620		MPY	TEMP2		7	0494	19	0062	0446
11630		DVR	L		5	0446	64	1067	1593
11640		SRD	0003			1593	31	0003	1153
11650		ALO	TEMP1			1153	15	0106	0496
11660		STL	TEMP1			0496	20	0106	1210
11670		RAL	XX			1210	65	1068	1291
11680		ALO		8002		1291	15	0544	8002
11690		RSU	0100			0544	61	0100	1147
11700		SUP	0100			1147	11	0100	1306
11710		SUP	0112			1306	11	0112	0102
11720		MPY	X			0102	19	0461	0152
11730		DVR	L			0152	64	1067	1643
11740		SRD	0003			1643	31	0003	1203
11750		ALO	TEMP1			1203	15	0106	0398

11760		STL	TEMP1		0398	20	0106	1260
11770		BMI		T090	1260	46	1841	1341
11780		PSL	8002	T091	1841	66	8002	0448
11790	T090	RAL	8003	T091	1341	65	8003	0448
11800	T091	STL	TEMP1		0448	20	0106	1310
11810		RAU	1983		1310	60	1983	1890
11820		SLT	0002		1890	35	0002	1197
11830		SUP	CLEAR		1197	11	0934	0498
11840		MPY	FSJ		0498	19	0352	0202
11850		STL	TEMP2		0202	20	0062	0302
11860		RAU	TEMP1		0302	60	0106	0692
11870		MPY	12		0692	19	0098	1001
11880		SLT	0003		1001	35	0003	0558
11890		DVR	TEMP2		0558	64	0062	1253
11900		SRD	0001		1253	31	0001	1360
11910		SLO	STEEL		1360	16	1518	1940
11920		BMI	T092		1940	46	1693	0594
11930		ALO	8001		0594	15	8001	0402
11940		STL	STEEL	T092	0402	20	1518	1693
11950	T092	RAL	XX		1693	65	1068	0204
11960		ALO	ONE		0204	15	0488	0254
11970		SLO	28		0254	16	1939	1743
11980		NZE		EXIT	1743	45	0546	0053
11990		ALO	8001		0546	15	8001	0304
12000		ALO	ONE	T093	0304	15	0488	0104
12010	CHECK	RAL	1983		1486	65	1983	1038
12020		SLT	0002		1038	35	0002	1095
12030		STU	SWICH		1095	21	0134	1088
12040		SLO	T		1088	16	0150	1206
12050		BMI		T083	1206	46	0810	0860
12060		RSU	8002		0810	61	8002	1536
12070		MPY	75		1536	19	1700	1586
12080		SRD	0003		1586	31	0003	0797
12090		ALO	9		0797	15	1034	1490
12100		SRT	0001		1490	30	0001	0847
12110		NZE		T083	0847	45	0850	0860
12120		ALO	1983		0850	15	1983	1138
12130		STL	1983		1138	20	1983	1636
12140		STL	SWICH	T083	1636	20	0134	0860
12150	T083	RAL	1980		0860	65	1980	1686
12160		SLT	0002		1686	35	0002	1543
12170		SLO	W1		1543	16	1093	0897
12180		BMI		T084	0897	46	0950	0701

12190		RSU	8002		0950	61	8002	0910
12200		MPY	75		0910	19	1700	1736
12210		SRD	0003		1736	31	0003	0947
12220		ALO	9		0947	15	1034	1540
12230		SRT	0001		1540	30	0001	0997
12240		NZE		T084	0997	45	1200	0701
12250		ALO	1980		1200	15	1980	1786
12260		STL	1980		1786	20	1980	1188
12270		STL	SWICH	T084	1188	20	0134	0701
12280	T084	RAL	1981		0701	65	1981	1238
12290		SLT	0002		1238	35	0002	1145
12300		SLO	W2		1145	16	0995	0649
12310		BMI		T085	0649	46	0002	1003
12320		RSU	8002		0002	61	8002	1288
12330		MPY	75		1288	19	1700	1338
12340		SRD	0003		1338	31	0003	0699
12350		ALO	9		0699	15	1034	1590
12360		SRT	0001		1590	30	0001	1047
12370		NZE		T085	1047	45	1250	1003
12380		ALO	1981		1250	15	1981	1388
12390		STL	1981		1388	20	1981	1438
12400		STL	SWICH	T085	1438	20	0134	1003
12410	T085	RAL	SWICH		1003	65	0134	1640
12420		NZE		PUNCH	1640	45	0044	1195
12430		PCH	1977	STOP	0044	71	1977	1488
12440	PUNCH	LDD	1983		1195	69	1983	1538
12450		STD	1828		1538	24	1828	1588
12460		LDD	1980		1588	69	1980	1638
12470		STD	1829		1638	24	1829	1688
12480		LDD	1981		1688	69	1981	1738
12490		STD	1830		1738	24	1830	1788
12500		RAL	1978		1788	65	1978	1838
12510		ALO	10MIL		1838	15	1647	0751
12520		STL	1827		0751	20	1827	1888
12530		PCH	1827		1888	71	1827	1938
12540		ALO	10MIL		1938	15	1647	0801
12550		STL	1877		0801	20	1877	1690
12560		PCH	1877		1690	71	1877	1740
12570		ALO	10MIL		1740	15	1647	0851
12580		STL	1927		0851	20	1927	0348
12590		RAL	1979		0348	65	1979	0492
12600		SLT	0004		0492	35	0004	0960
12610		ALO	1982		0960	15	1982	0542

12620		SLT	0002		0542	35	0002	1010
12630		ALO	1984		1010	15	1984	0592
12640		STL	1936		0592	20	1936	1790
12650		PCH	1927	STOP	1790	71	1927	1488
12660	STOP	HLT	1111	8000	1488	01	1111	8000
12670	1	00	0000	0001	0386	00	0000	0001
12680	2	00	0000	0002	0750	00	0000	0002
12690	3	00	0000	0003	1056	00	0000	0003
12700	4	00	0000	0004	1703	00	0000	0004
12710	5	00	0000	0005	1132	00	0000	0005
12720	6	00	0000	0006	1050	00	0000	0006
12730	7	00	0000	0007	1925	00	0000	0007
12740	8	00	0000	0008	0880	00	0000	0008
12750	9	00	0000	0009	1034	00	0000	0009
12760	12	00	0000	0012	0098	00	0000	0012
12770	14	00	0000	0014	0943	00	0000	0014
12780	15	00	0000	0015	1135	00	0000	0015
12790	17	00	0000	0017	0836	00	0000	0017
12800	24	00	0000	0024	0968	00	0000	0024
12810	25	00	0000	0025	1732	00	0000	0025
12820	35	00	0000	0035	0638	00	0000	0035
12830	50	00	0000	0050	1150	00	0000	0050
12840	58	00	0000	0058	1600	00	0000	0058
12850	65	00	0000	0065	1650	00	0000	0065
12860	75	00	0000	0075	1700	00	0000	0075
12870	1HUN	00	0000	0100	1750	00	0000	0100
12880	TWO	00	0000	0200	1800	00	0000	0200
12890	875	00	0000	0875	0933	00	0000	0875
12900	1728	00	0000	1728	1072	00	0000	1728
12910	ONE	00	0001	0000	0488	00	0001	0000
12920	ZONE	00	0001	0001	0443	00	0001	0001
12930	13	00	0013	0000	0144	00	0013	0000
12940	28	00	0028	0000	1939	00	0028	0000
12950	30	00	0030	0000	1900	00	0030	0000
12960	FIFTY	00	0050	0000	1626	00	0050	0000
12970	2HUN	00	0200	0000	0145	00	0200	0000
12980	10MIL	00	1000	0000	1647	00	1000	0000
12990	5BILL	50	0000	0000	1950	50	0000	0000
13000	DIRT	00	0000	0100	0931	00	0000	0100
13010	CONC	00	0000	0150	0384	00	0000	0150
13020	SIDE	00	0000	0287	1910	00	0000	0287
13030	CLEAR	00	0000	0206	0934	00	0000	0206
13040	SHSTR	00	0000	0932	1701	00	0000	0932

PER CU FT
PER CU FT
PER FT DEP
CLEARANCE
90 J B

13050	BOND	00	0000	0302	350 J	1751	00	0000	0302
13060	K	00	0000	0248	FC K J OV2	1801	00	0000	0248
13070	KSIDE	00	0000	0197		0252	00	0000	0197
13080	FSJ	00	0001	7260		0352	00	0001	7260
13090	FSJS	00	0001	7500		0452	00	0001	7500
13100	1901	00	0012	0000	H15-S12	1901	00	0012	0000
13110	1902	00	0012	0000	H15	1902	00	0012	0000
13120	1903	00	0016	0000	H20-S16	1903	00	0016	0000
13130	1904	00	0016	0000	H20	1904	00	0016	0000
13140	1905	00	0012	0000	MILITARY	1905	00	0012	0000

SYMBOL TABLE 32022

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
1	0386	CONSTANT
10MIL	1647	CONSTANT
12	0098	CONSTANT
13	0144	CONSTANT
14	0943	CONSTANT
15	1135	CONSTANT
17	0836	CONSTANT
1728	1072	CONSTANT
1HUN	1750	CONSTANT
2	0750	CONSTANT
24	0968	CONSTANT
25	1732	CONSTANT
28	1939	CONSTANT
2HUN	0145	CONSTANT
2LW1	0236	Out to out Length of Culvert
2ONE	0443	CONSTANT
3	1056	CONSTANT
30	1900	CONSTANT
35	0638	CONSTANT
4	1703	CONSTANT
5	1132	CONSTANT
50	1150	CONSTANT
58	1600	CONSTANT
5BILL	1950	CONSTANT
6	1050	CONSTANT
65	1650	CONSTANT
7	1925	CONSTANT
75	1700	CONSTANT
8	0880	CONSTANT
875	0933	CONSTANT
9	1034	CONSTANT
A	0131	Distance from Center of culvert to load for Rear Wheels
AA	0208	Distance from Center of culvert to load for Front Wheels
ALPHA	0361	Not used in this section
B	0868	Length of Rear Wheel load
BARA	0596	Start of Section to determine cutoff length of Bar A
BB	0306	Length of Front wheel load
BOND	1751	Bond stress times j
BOTSH	1421	Bottom slab shear sub routine
BOTT	1727	Not used in this section

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
BS	0450	Bottom slab moment sub routine
BSLAB	0132	Start of routine to find Bottom slab steel
C	0975	Distance from load to end of culvert
CHECK	1486	Start of routine to check for section thickness increase
CLEAR	0934	Distance from outside of concrete to ϕ of Bar
CONC	0384	Weight of concrete
CTR	1136	Start of routine to find center wall steel
CUTOF	1300	Sub routine for moment in the unloaded top span
D	1168	Depth to steel
DIRT	0931	Weight of earth
EARTH	0981	Top dead load per foot on culvert
EXIT	0053	Storage for exit instruction in Sub routine
EXIT1	1603	Storage for exit instruction in Sub routine
FIFTY	1626	CONSTANT
FORCE	1787	Rectangular section of side load
FSJ	0352	Allowable steel stress times j for top and bottom
FSJS	0452	Allowable steel stress times j for walls
FWHEE	0195	Front wheel load per foot
H	0191	Working height
I1	0048	I of slab
I2	0793	I of outer wall
I3	0843	I of center wall
K	1801	Factor to divide moment by in order to get d
KSIDE	0252	K factor for walls
L	1067	Working length
LLCON	0893	Live Load Control: - for no live load, + for live load
ML	1780	Left moment for side wall moment sub routine
MOM	1674	Moment of total live load about ϕ of culvert
MR	0881	Right moment for side wall moment sub routine
MSIDE	0136	Start of routine to find side wall steel

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
ONE	0488	CONSTANT
P	1076	Wheel Load
P1	0082	Wheel Load
PCNT	0006	Percent of side load
PRESS	0939	Bottom dead load per foot
PUNCH	1195	Punch routine to punch 3 answer cards
SHBOT	0235	Start of routine to find bottom slab shears
SHEAR	0050	Start of routine to find top slab shears
SHSTR	1701	Top slab shear sub routine
SIDE	1910	Side earth pressure per foot of depth
SIDEM	0550	Side wall moment sub routine
SLAB	0187	Routine to find top slab steel
SLABM	0350	Top slab moment sub routine
SQRT	0250	Square root sub routine
STEEL	1518	Area of steel found by sub routine
STOP	1488	End of program
SUMP	0065	Sum of perimeter found by shear sub routine
SWICH	0134	Storage for 8 or 9
T	0150	Storage for new thickness of slab
TEMP1	0106	Temporary Storage
TEMP2	0062	Temporary Storage
TEMP3	0061	Temporary Storage
TEMP4	0457	Temporary Storage
TO27	0149	Transfer Control
TO28	1218	Transfer Control
TO29	1268	Transfer Control
TO30	0559	Transfer Control
TO31	0199	Transfer Control
TO32	0022	Transfer Control
TO33	0909	Transfer Control
TO34	0072	Transfer Control
TO35	0299	Transfer Control
TO36	0088	Transfer Control
TO37	1416	Transfer Control
TO38	0241	Transfer Control
TO39	0249	Transfer Control
TO40	0258	Transfer Control
TO41	1078	Transfer Control
TO42	0040	Transfer Control
TO43	0095	Transfer Control
TO44	1713	Transfer Control

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
T045	1412	Transfer Control
T046	0284	Transfer Control
T047	0086	Transfer Control
T048	1328	Transfer Control
T049	0020	Transfer Control
T050	0245	Transfer Control
T051	1428	Transfer Control
T052	1612	Transfer Control
T053	1712	Transfer Control
T054	1528	Transfer Control
T055	0331	Transfer Control
T056	0399	Transfer Control
T057	0240	Transfer Control
T058	0345	Transfer Control
T059	0358	Transfer Control
T060	0980	Transfer Control
T061	0731	Transfer Control
T062	0583	Transfer Control
T063	1380	Transfer Control
T064	1575	Transfer Control
T065	1763	Transfer Control
T066	1480	Transfer Control
T067	1580	Transfer Control
T068	1913	Transfer Control
T069	1735	Transfer Control
T070	0449	Transfer Control
T071	1040	Transfer Control
T072	0495	Transfer Control
T073	0650	Transfer Control
T074	0536	Transfer Control
T075	0686	Transfer Control
T076	0438	Transfer Control
T077	1340	Transfer Control
T078	0688	Transfer Control
T079	1683	Transfer Control
T080	0838	Transfer Control
T081	0938	Transfer Control
T082	1734	Transfer Control
T083	0860	Transfer Control
T084	0701	Transfer Control
T085	1003	Transfer Control
T086	0640	Transfer Control
T087	0940	Transfer Control
T088	0332	Transfer Control
T089	1483	Transfer Control
T090	1341	Transfer Control

<u>SYMBOL</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>
TO91	0448	Transfer Control
TO92	1693	Transfer Control
TO93	0104	Transfer Control
TO94	1245	Transfer Control
TO95	1356	Transfer Control
TO96	1295	Transfer Control
TO97	1345	Transfer Control
TO98	1033	Transfer Control
TO99	0894	Transfer Control
TOPSH	0015	Top slab shear sub routine
TWO	1800	CONSTANT
W1	1093	Storage for new thickness of outer wall
W2	0995	Storage for new thickness of center wall
WHEEL	0543	Rear wheel per foot
X	0461	Distance working point
XX	1068	Live load column
Y	1635	Distance between wheels

0000	000000 *	0450	0500	0000000000	0950	1000	00000000011	1450	1500	11000000000	1950
0001	00000000 *	0451	0501	0000000000	0951	1001	01111111111	1451	1501	11110000000	1951
0002	00000000 0	0452	0502	00011111111	0952	1002	11111111111	1452	1502	11111110000	1952
0003	00000000 *	0453	0503	00000000000	0953	1003	00000000001	1453	1503	11010110000	1953
0004	00000000-0	0454	0504	11111111111	0954	1004	11111111111	1454	1504	11111110000	1954
0005	00000000 *	0455	0505	00000000000	0955	1005	00000000000	1455	1505	00000000000	1955
0006	00000000 *	0456	0506	00000000000	0956	1006	00000000011	1456	1506	11111110101	1956
0007	00000000000	0457	0507	01111111111	0957	1007	11111111111	1457	1507	11111110101	1957
0008	00000000 0	0458	0508	00111111111	0958	1008	11111111111	1458	1508	11111110101	1958
0009	00000000 *	0459	0509	00000000000	0959	1009	00000000000	1459	1509	00000000000	1959
0010	00000000 *	0460	0510	00000000000	0960	1010	00000000000	1460	1510	11111110000	1960
0011	00000000 *	0461	0511	00000000000	0961	1011	00000000000	1461	1511	00000000000	1961
0012	00000000 *	0462	0512	00000000000	0962	1012	00000000000	1462	1512	00000000000	1962
0013	00000000 *	0463	0513	00000000000	0963	1013	00000000000	1463	1513	00000000000	1963
0014	00000000 *	0464	0514	00000000000	0964	1014	00000000000	1464	1514	00000000000	1964
0015	00000000 *	0465	0515	00000000000	0965	1015	00000000000	1465	1515	00000000000	1965
0016	00000000 *	0466	0516	00000000000	0966	1016	00000000000	1466	1516	00000000000	1966
0017	00000000 0	0467	0517	00000000000	0967	1017	00000000000	1467	1517	00000000000	1967
0018	00000000 *	0468	0518	00000000000	0968	1018	00000000000	1468	1518	00000000000	1968
0019	00000000 *	0469	0519	00000000000	0969	1019	00000000000	1469	1519	00000000000	1969
0020	00000000	0470	0520	00000000000	0970	1020	00000000000	1470	1520	00000000000	1970
0021	00000000 *	0471	0521	00000000000	0971	1021	00000000000	1471	1521	00000000000	1971
0022	00000000 *	0472	0522	00000000000	0972	1022	00000000000	1472	1522	00000000000	1972
0023	00000000 *	0473	0523	00000000000	0973	1023	00000000000	1473	1523	00000000000	1973
0024	00000000 *	0474	0524	00000000000	0974	1024	00000000000	1474	1524	00000000000	1974
0025	00000000 *	0475	0525	00000000000	0975	1025	00000000000	1475	1525	00000000000	1975
0026	00000000 *	0476	0526	00000000000	0976	1026	00000000000	1476	1526	00000000000	1976
0027	00000000 *	0477	0527	00000000000	0977	1027	00000000000	1477	1527	00000000000	1977
0028	00000000 *	0478	0528	00000000000	0978	1028	00000000000	1478	1528	00000000000	1978
0029	00000000 *	0479	0529	00000000000	0979	1029	00000000000	1479	1529	00000000000	1979
0030	00000000 *	0480	0530	00000000000	0980	1030	00000000000	1480	1530	00000000000	1980
0031	00000000 0	0481	0531	00000000000	0981	1031	00000000000	1481	1531	00000000000	1981
0032	00000000 *	0482	0532	00000000000	0982	1032	00000000000	1482	1532	00000000000	1982
0033	00000000 0	0483	0533	00000000000	0983	1033	00000000000	1483	1533	00000000000	1983
0034	00000000 *	0484	0534	00000000000	0984	1034	00000000000	1484	1534	00000000000	1984
0035	00000000 0	0485	0535	00000000000	0985	1035	00000000000	1485	1535	00000000000	1985
0036	00000000 *	0486	0536	00000000000	0986	1036	00000000000	1486	1536	00000000000	1986
0037	00000000 *	0487	0537	00000000000	0987	1037	00000000000	1487	1537	00000000000	1987
0038	00000000 *	0488	0538	00000000000	0988	1038	00000000000	1488	1538	00000000000	1988
0039	00000000 *	0489	0539	00000000000	0989	1039	00000000000	1489	1539	00000000000	1989
0040	00000000 *	0490	0540	00000000000	0990	1040	00000000000	1490	1540	00000000000	1990
0041	00000000 0	0491	0541	00000000000	0991	1041	00000000000	1491	1541	00000101110	1991
0042	00000000000	0492	0542	00000111111	0992	1042	11111111111	1492	1542	11111111110	1992